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VOL. II.—7TH YEAR. SYDNEY: SATURDAY, AUGUST 14, 1920. No. 7.

URINARY INFECTION.[1]

By **A. S. Roe, B.A., M.B., B.Ch. (Oxon.), F.R.C.S. (Edin.),**
Urologist and Assistant Surgeon to Mater Misericordiæ Public Hospital, Brisbane.

It is generally accepted now that urinary infection does not occur by the spontaneous ascension of bacteria up the urinary tract to the kidney pelvis, or parenchyma. It has been proved that:

(*i.*) Lymphatic injection can ascend the ureter to the renal lymphatics.

(*ii.*) That there is a lymphatic connexion between the colon and right kidney and between the bladder and prostate and rectum.

(*iii.*) That bacteria quite frequently occur in the blood in many types of infection, focal and systemic.

Crabtree's theory of renal infection explains most of the known clinical phenomena and is a valuable one on which to work. He considers that whether the infection be derived from an inflammation of the lower urinary tract, or from some other region, the bacteria usually first reach the kidney in the blood, not in the lymph stream. The bacteria thus reaching the kidney may be roughly divided into:

(*i.*) Those producing pus readily, of high pathogenicity.

(*ii.*) Those of low pathogenicity, producing pus less readily, such as the colon group.

All bacteria can be passed through the kidney without permanent injury to that organ and may be recovered dead or alive in the urine.

The presence of bacteria in urine is of more frequent occurrence than is generally recognized.

From my own experience I believe that from infancy upwards all of us are liable to attacks of bacteriæmia and consequently of bacilluria and that, as a rule, these attacks effect little or no damage to the kidneys. The persistence of these attacks, vitality lowered, for some reason or other, or the presence of some anatomical condition causing obstruction to any part of the urinary tract, eventually cause more definite damage to the kidney substance and the condition of pyelo-nephritis, acute or chronic, appears. In most cases (the Mayo Clinic reports 73% in a series of 240 cases as far back as 1915) bacteria may be demonstrated in the urine from both kidneys, but clinically, at least, the cases may be dealt with under two headings:

A.—Those in which the symptoms and physical findings are more or less equal on both sides and no obvious obstruction is found.

B.—Those in which the symptoms and physical findings are confined mainly to one kidney and obstruction of some sort is found in the urinary tract.

As the treatment and findings vary considerably in the two classes, I shall deal with them separately.

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on July 2, 1920.

A.—Infection Without Obvious Obstruction.

This type of case occurs, in my own particular experience, from infancy upwards to middle age. Whether the patients succumb at this stage or the pathology of the condition is then obscured by the presence of some obstruction (prostrate, fibroids, cystocele, etc.), I am unable to state. The condition varies somewhat in children and adults, but clinically is the same.

In babies it is characterized by its vagueness. The parents complain that the child gets gastric attacks of various types (vomiting, anorexia, constipation, diarrhœa, etc.); urine is passed frequently and is generally scalding. These attacks are frequently associated with fever and, as a rule, the child is not by any means wasted or puny. One of my youngest patients, age 16 months, was a healthy, robust, male child, who had had no previous constipation nor diarrhœa and was not backward in any way. He refused to take his food, slept badly at night, had a coated tongue and craved for water and his motions were sour and slimy, though yellow in colour. Castor oil and starvation had no obvious effect and I eventually obtained a sample of urine, which was strongly acid, swarming with bacteria and contained a few pus cells and oxalate and uric acid crystals. On giving him alkalies he made an immediate and uninterrupted recovery.

In older children the symptoms are more definite. Attacks are definitely febrile and cyclic in type, are associated with headache and gastric symptoms ranging from anorexia to marked vomiting and accompanied by frequency of urination, especialy at night. Constipation, chronic or recurring, is almost invariable. In these cases constitutional symptoms are noted, such as poor development, general vague malaise and even such definite condition as pronounced asthma, as occurred in one case of mine. The child, a girl of 7 years, with asthmatical grandparents, was not developing as well as she had formerly done, was very nervous and irritable and had what the parents called attacks of colds and bronchitis. Her urine was very acid, swarming with motile bacteria, had a considerable amount of pus, a few blood cells and débris. She was very constipated. I put her on paraffin and an alkaline mixture; an extraordinary and progressive improvement resulted, so much so that when I saw her some three months later with a severe cold, her breathing was practically normal, whereas a younger, healthier sister, who also had a cold, showed well marked asthmatical breathing and was quite distressed. Her urine, though much improved, still contained organisms, though in much reduced numbers.

In adults the symptoms are more or less regular; they include dyspepsia, usually acid in type and associated with flatulence and palpitation, headaches, backaches. These symptoms are generally persistent, but are subject to marked exacerbations, during which frequency of urination is most noticeable. In women these exacerbations invariably occur just before the

onset of the menses. I have had six cases of severe acute pyelitis associated with pregnancy during the last six months; in each case there were definite symptoms, which led me to believe that the case was one of this type, which had become acute as a result of the toxæmia and the obstruction caused by the pregnant uterus.

Diagnosis.

The diagnosis in all these cases depends on microscopical examination of the urine, which may have to be examined on several occasions, as the pathological constituents of the urine are capable of varying in amount. A characteristic urine is highly acid, swarming with motile bacteria and varying amounts of blood (rarely) and pus (generally). Albumin, oxalates, urates, etc., may all be present. The organism present is invariably the colon bacillus.

The blood pressure is seldom raised to any extent, even when albumin is present.

Cystoscopy in adults reveals an invariable picture of an inflamed and œdematous trigone, with both ureters infected and congested to a varying degree, the rest of the bladder being clear.

Treatment.

The treatment consists mainly:

(1) In neutralizing the acidosis present, by giving alkalies and large amounts of fluid.
(2) In eliminating the supply of *Bacillus coli communis*, by correcting constipation.

Dieting consists in limiting the intake of meat and extracts, if albuminuria be present or the blood pressure be raised, or limiting oxalate containing food, if oxaluria be present. If paraffin and enemata do not correct the constipation, a bismuth X-ray examination should be undertaken and any marked obstruction found, such as chronic appendicitis, Lane's kink, or Jackson's membrane, should be dealt with. One such case has come under my care and the benefit in regard to the symptoms and urinary findings after operation has been most gratifying.

Vaccines have been useless in this type of case, in my experience.

B.—Infection With Obstruction.

The obstruction may occur in any part of the urinary tract and may be of any nature. If the obstruction is actually above the bladder, the symptoms and physical findings may be and generally are rigidly confined to the affected side, but even when in the urethra or bladder, it is extraordinary how often the main symptoms are directed to one side, even though both sides are affected to a certain extent.

In my own experience, when the obstruction is in the ureter opening or above it, ureteral stenosis or calculus, movable kidney, congenital stricture at the uretero-pelvic juncture, or aberrant artery, has been the cause of obstruction and the kidney itself has shown a definite amount of hydronephrosis. Where the obstruction has been in the bladder or below it, urethral stricture, enlarged prostate, chronic prostatis, malignant growth of the bladder, or some extravesical pressure, such as a pregnant uterus, fibroids, retroversion, with or without prolapse, has been the obstructing agent.

The infecting organism in this class of case varies, a mixed infection being much more common than in the class of case previously described. In my own case staphylococcus, pneumococcus and *Bacillus coli communis* have caused the infection.

It is claimed by some that original infection in these cases is probably always a pyogenic organism from some focus elsewhere and that the *Bacillus coli communis* is only super-imposed and may go on flourishing when the original infection has died out. With this in view I have always searched diligently and have certainly found such focuses as dental abscesses and degenerating fibroids or salpingitis, treatment of which has improved the urinary condition. It is also claimed that infections of the kidney pelvis can react and cause systemic infections. Two cases I have had point to this conclusion. In one case staphylococci and *Bacillus coli communis* appeared in urine at times, accompanied by cystitis. Staphylococci were obtained on blood culture. The patient had definite attacks of arthritis. A severe degree of pyelonephritis was discovered at the operation, with marked hæmorrhagic ulceration of the pelvis, which was considerably dilated; there was cloudy swelling of the cortex. Removal of the kidney completely relieved her of pain and of her rheumatism as well.

The second case was that of a man with persistent hæmaturia of twelve months' standing and slight pain in right side. The hæmaturia on the right side was so profuse that it was impossible to be certain there was none from the left by cystoscopy alone. A ureteral specimen contained many blood cells and staphylococci from the good side; the bladder specimen contained masses of each. He suffered as well from severe attacks of synovitis. On cystoscopy a double pyelonephritis appeared to exist. I explored the right kidney for secondary calculus, X-ray examination having failed to reveal any definite changes. The pelvis of the kidney was dilated and filled with a calculus, which was removed and the pelvis drained. He made an uneventful recovery, except that he had a severe attack of rheumatism, his knees being very distended, suggesting that my opening his kidney had given him a severe dose of toxins.

Treatment.

Treatment in all these cases consists of:

(1) Relieving the obstructing cause, whatsoever it may be, by operation or other means.
(2) Medicinal treatment. Urotropine and acid sodium phosphate are of much greater value in these cases than in the class without obstruction.

I have two patients, one a soldier with an upper neurone paralysis of the bladder and the other an old man who had his prostate removed some three months before I saw him. Both had very severe cystitis and pyelonephritis, with the pain chiefly on the left side; both were having rigors, a high temperature, nausea and marked thirst and alkaline urines. The bladder was washed out with silver nitrate solution and urotropine was given; both patients are now able to do light jobs about the house, though it is fully six months since they came under treatment.

I do not propose to deal more fully with the treatment of individual cases, as it is far beyond the scope of this paper. For the same reason I shall not allude to tuberculous or parasitic urinary infections.

ABDOMINAL PAIN AND ITS ASSOCIATED REFLEX PHENOMENA.

BEING AN INTERPRETATION OF ABDOMINAL PAIN ILLUSTRATED BY A SERIES OF CASES.

By John I. Hunter, M.B. Ch.M.,
Demonstrator of Anatomy, Resident Medical Tutor, Wesley College, University of Sydney.

(Continued from page 122.)

Review of Pain from the Ureter and Fallopian Tube.

The foregoing explanation of pain from hypertonic muscle of the Müllerian duct is identical with that put forward to explain pain from the musculature of the Wolffian duct. This explanation is in conformity with Gaskell's statement (5) that "the motor neurones to the musculature surrounding the Wolffian and Müllerian ducts are conveyed to the central nervous system exclusively by the nerves in the thoraco-lumbar overflow."

There has been shown only one reflex arc instead of two, as in the case of the alimentary canal. Moreover, if this be true, the sympathetic motor fibres have evidently a different value in the case of the uro-genital musculature than that in the alimentary canal. They cause inhibition of the gut wall as shown experimentally, but, it would seem, contraction in the case of the ureter and tube. It is admitted, however, that the bladder and uterus have a double supply:—

(*i.*) From the pelvic nerves (causing contraction of the bladder wall).

(*ii.*) From the hypogastric plexuses of the sympathetic (which, if stimulated when the wall is contracted, lead to dilatation).

It is not impossible that a double supply of the smaller muscle tubes may have been overlooked. Should this be the case in general, the sympathetic reflex would cause relaxation. When, owing to the hypertonic contractions of the muscle wall, impulses are carried to the cortex by the central pain path, visceral pain will result. The system opposing this relaxation mechanism, would be that the vagal and pelvic nerves, which would cause contraction of the muscle wall. When stimuli are projected to the brain from the vagus, the sensation of flatulence results. When the pelvic nerves transmit impulses onwards, they may cause pain referred to the perineal distribution of the upper sacral nerves or a feeling of fullness associated with pain.

Pain from Solid Viscera.

The case detailed of sarcoma of the kidney was at first painless. Blood clots within the ureter gave rise to acute pain. When the tumour increased in size, a dull, constant pain was present in addition to the acute exacerbation accompanying hæmaturia.

The dull pain has not yet been accounted for, which may have been due to pressure on surrounding structures. In the rapid enlargement of the solid organs, however, such as the liver, it is easier to show that pain and tenderness may be produced independently of their pressure effects or of peritoneal invasion. A rapidly growing malignant growth of the liver may produce the same condition. Pelvic congestion leading up to the menstrual period produces normally some enlargement of the ovary. When the *tunica* is sclerosed, this enlargement does not occur to the same extent; the tension within the ovary is increased. In all the above instances there is increased intra-visceral tension. This tension may give rise to referred pain and tenderness. The pain is again referred to the distribution of somatic nerves by the cortex. The question is how this structure receives its impressions. Nerves in the case of the liver have been traced along the finer branches of the vessels of the portal tract from the hepatic plexus. These then are evidently the visceral receptor fibres. Their cells are situated in the spinal ganglia and their central processes pass into the second relay visceral receptors. Normally the synaptic junction of the first and second relays is not opened by the stimuli proceeding from the organ. The adequate stimulus for the opening up of this synapse seems to be increased intra-visceral tension, sufficient to put the fibrous elements in which the nerves run on the stretch. Connector neurones transmit the impulse to the pain cells and the central pain path conveys them to the cortex.

The intra-visceral tension and consequently the pain is increased on deep palpation of the liver; that is, tenderness may thus be increased.

Clinical evidence in support of this view may be adduced from the records of cases of acute pancreatitis. Osler (8) says that the swelling and infiltration of the pancreas in acute pancreatitis "necessarily involve the coeliac plexus and the stretching of the nerves may account for the agonizing pain and sudden collapse." If stretching causes stimulation of the sympathetic nerves, this accounts for pain on the rapid increase of intra-visceral tension in solid organs when the fibrous tissue containing the nerves is put upon the stretch.

In the detailing of the cases so far discussed, the patient's history of pain has been the primary factor considered. A thorough abdominal examination would have revealed in many instances associated signs, such as muscular tenderness and rigidity, which did not concern the discussion of the patient's history of pain. This aspect may now be analysed. A third phenomenon also presents itself, *viz.*, the pain which results from involvement of the peritoneum.

III.—PAIN FROM PERITONITIS: ABDOMINAL RIGIDITY AND MUSCULAR TENDERNESS.

A series of cases of acute appendicitis has been selected to throw light on the cause of these phenomena.

Before proceeding further, I wish to point out that rigidity is due to muscular contraction. Moreover, this muscular contraction is not voluntary. It must, therefore, be reflex. For purposes of examination, it is wise to bear this in mind, because experience teaches that stimulation of the wall in these cases may give rise to firm muscular contraction. This is the ordinary reflex arc helping the preservation of muscular tone. A connecting link in the cord passes from the entering sensory fibre to the cells of the anterior nerve root and stimulates them into activity. But why is the muscle often rigid

when there is no stimulation of the skin? And why is the response so intense in many of the great abdominal crises? These questions must be settled in order that the phenomenon of abdominal pain may be correctly interpreted in its proper perspective.

Case VII.—When first seen the patient, a school girl, aged 15, had been complaining for two days previously of diffuse pains over the lower segment of the abdomen, intermittent in character and slightly more severe over the right iliac fossa. Frequency of micturition accompanied the pain. The pain, however, was not very severe. The patient had vomited once just prior to being examined. Her temperature was 37.8° C. and her pulse-rate 100.

On examination it was noticed that the breathing was mainly thoracic, but the upper part of her abdomen had some degree of movement. No abnormality in the contour of her abdominal wall was noticed on inspection. On palpation the right iliac fossa was found to be slightly tender, while slight tenderness was present over McBurney's point. The muscles were not markedly rigid; a slight rigidity only was felt in the right flank on careful examination. The patient was asked to flex her thigh and pain resulted when the thigh was nearly at right angles to the abdominal wall. Palpation of the left iliac fossa revealed a peculiar fact. Pushing the contents of the left side towards the middle line caused a short, sharp, severe pain on the right side, near McBurney's point.

A more careful inquiry into the child's history revealed the fact that a fortnight previously she had been taken with a sudden, severe pain over the abdomen which settled in the right iliac fossa. The pain only lasted two hours and the same day she resumed her duties.

The diagnosis of acute appendicitis with a slight amount of fluid in the peritoneal cavity was confirmed at operation. The appendix was soft and gangrenous and the fluid sero-purulent; a drainage tube was therefore inserted.

Now the only method which elicited definite pain in the above examination, was the improvized one of pushing the abdominal contents backwards and to the right from the left side. This differs from Rovsing's sign, in which flatus is forced back along the descending transverse and ascending colon from the left side. The explanation of this phenomenon in the atypical case described appears to be that the parietal peritoneum which was involved, was stretched by the impulse of viscus to viscus and of the sero-purulent fluid in the right iliac fossa. This stretching affected the highly sensitive extra-peritoneal layer. The sensory nerve fibres conveyed the impulses along the dorsal nerve roots to the pain column and thence to the cortex through the thalamus, where the sensation of pain was experienced. The final diagnosis was made on this evidence. The further history of the case seems to bear out this explanation.

Forty-eight hours later the condition of the patient, which had improved after the operation, became worse. Her pulse was soft and rapid; its rate was 120 and the temperature was 37.8° C.. She looked very ill. The lower part of her abdomen was hard and rigid and she complained of pain on both sides. There was dulness to percussion on the right side. Examination of the tube showed a thick, creamy pus filling the lower portion of the tube, as could be ascertained by pushing a probe stick towards the inner end.

Again the parietal peritoneum was greatly stretched and again there was pain. But, of course, many other structures were involved and the cause of the pain was not yet certain.

Before a second operation was performed, there appeared a very thick, creamy pus *per vaginam*. The pain was relieved, *i.e.*, coincident with the release of pressure on the parietal peritoneum.

This explanation implies that peritonitis in the cloudy swelling stage renders the parietal peritoneum more easily stretched. Pressure over the anterior abdominal wall, when no peritonitis is present, would not cause the acute pain on the opposite side. When it is inflamed, however, stretching will occur and so the extra-peritoneal layer will be stimulated. The somatic sensory fibres transmit their impulses to the pain group of cells and thence by the central pain path. Pain now results. Later in this case, when pus definitely appeared in the pelvis, it was situated between the uterus, the rectum in the hollow of the sacrum and the parietal peritoneum on each side. Adhesions closely confined the pus to this space. The pus was causing a stretching of the parietal peritoneum and pain resulted. Rigidity also was very marked, resulting from the reflex contraction of the abdominal muscles. This contraction is produced by means of the ordinary somatic reflex arc—the somatic sensory cell to the cord from the extra-peritoneal fat, with either a collateral or a connector cell from the posterior horn to the anterior horn. The excitor cell of the anterior horn sends its axone to the abdominal muscles.

Finally this arc may be stimulated if the vascular changes in the inflamed area give rise to an exudate which is capable of stretching the terminal extra-peritoneal nerve fibres.

It is on account of these facts that in the diagnosis of an acute inflammatory condition of the abdomen the clinician relies on the sign of muscular rigidity as an important deciding factor.

Can the various phenomena clinically observed in this case be explained by a complete series of pathological processes? In attempting to do this, it must be realized that the second attack hinged upon the first attack. The first onset of pain experienced a fortnight previously was due to an infective process of the mucous layer of the appendix. A condition of tenesmus was set up in the appendix with a view to expelling the foreign inner lining. Inhibitory impulses passed from this contracted hypertonic tube and the stimuli were so intensive that the local association cells from the visceral receptors set the cells of the pain column into activity and pain resulted. This pain was referred to the distribution of the nerves in the region of the right iliac fossa. Since the vagus was overacting, the inhibitory impulses of the sympathetic were of no avail. The infective process proceeded and caused thrombosis of some of the smaller vessels. The infective process was, however, overcome, the pain ceased, dilatation followed contraction and the normal size was resumed.

The second attack was due to an infection in a damaged tube. The impulses from the inflamed area due to the damage, caused contraction of a less complete character. The inhibitory impulses were less marked and the pain was less. It was more intermittent, as the impulses of contraction through the vagus were reduced as a result of the thrombosed gangrenous areas. The inhibitory sympathetic reflex, therefore, held sway for some time. The impulses passing to the vagus centre, together with the absorbed toxins acting on the centre, caused vomiting.

According to this description pain should cease (if the parietal peritoneum be not stretched) when the gut wall is destroyed and contraction can no longer occur. This is borne out by the following case:—

CASE VIII.—A man, aged 30, complained of pain settling down in his right iliac fossa, lasting for three days. He had vomited several times since the onset. His bowels were constipated. On further questioning he said that the severity of the pain had greatly decreased. There was no acute tenderness over McBurney's point on this, the fourth, day of the disease. The following day his pain had disappeared and his temperature had fallen from 37.8° C. to 37.2° C. and the pulse-rate to 85. The history and the evidence of the recommending officer showed the case to be a typical one of acute appendicitis. On the fifth day the question arose as to whether the pain had been relieved by his overcoming the infection or whether the appendix was gangrenous. The fever was in favour of continued infection and the abdomen was opened. A soft gangrenous appendix was removed. The patient made an uninterrupted recovery.

These findings favour the idea that it is the inhibitory impulses from the contracted appendix which caused the pain in the early stage.

Rigidity Without Involvement of the Parietal Peritoneum.

I have shown that the stimulation of the nerves in the extra-peritoneal fatty layer cause reflex rigidity of the abdominal muscles. This stimulation is effected by the stretching of the inflamed parietal peritoneum. But what is the explanation of the localized rigidity of the abdominal wall in gastric ulcer or in duodenal ulcer? What is the explanation of the rigidity of the abdominal muscles and the drawing up of the scrotum as a stone passes down the ureter to reach the bladder? In all these cases the parietal peritoneum is not involved and clearly another mechanism must produce these contractions. It is necessary to fall back on the hypothesis that in all these instances afferent stimuli pass by way of the posterior nerve roots from the affected part to the visceral receptors. So far it has been found that local association cells connect these cells with:—

(1) The sympathetic cells of the lateral horn leading to inhibition of the gut.

(2) With the cells concerned with pain in the pain column. This connexion was used to explain referred pain.

I wish to suggest that there is a third connexion:

(3) By a local association neurone with the motor cells of the anterior horn of grey matter (Figure VI.).

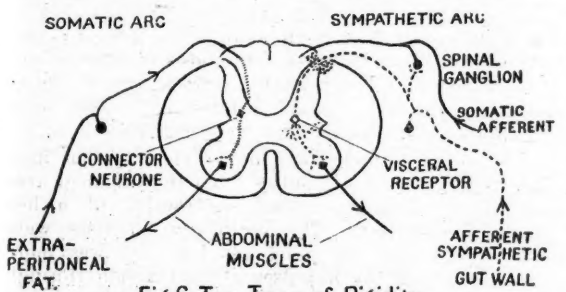

Fig.6. Two Types of Rigidity.

As the intensity of the afferent stimuli is increased, it may be supposed that this synapse is also overcome and reflex rigidity of the abdominal muscles results. The following case illustrates the action of this reflex arc:—

CASE IX.—A girl, aged 13, on returning from school was seized with a severe diffuse pain over the lower part of her abdomen. She managed to reach home, where she vomited several times. The pain continued for several hours and tended to settle in her right iliac fossa. She was examined by the writer on the second day of the pain. The patient still complained of pain on her right side. The temperature was 38.9° C. and the pulse-rate 100. Examination revealed two points of tenderness:—

(*a*) In the umbilical region.

(*b*) At McBurney's point.

The skin was hyperæsthetic. The muscles were tense and rigid, so much so that the fasculi could be felt under the fingers, forming a bundle in the region of McBurney's point. No mass could be detected. The case was considered one for immediate operation. Urinary examination showed nothing abnormal.

Operation revealed an appendix which was somewhat congested throughout the proximal 6.25 cm. and yellowish at the tip. The parietal peritoneum was apparently healthy. The patient made an uninterrupted recovery.

In this case the parietal peritoneum did not cause the stimulus of the richly supplied extra-peritoneal layer. Yet the muscles were markedly contracted. It will be noticed, however, that the length of the appendix which was receiving abnormal stimuli, was great. The rigidity was due, I think, to a stimulus of the anterior horn cells by the afferent sympathetic impulses passing to the cord from a contracted appendix. Between the two sets of cells there is, of course, an intermediate local association neurone.

There is, however, another possibility, inasmuch as the stimulation by afferent sympathetic fibres of the somatic cells in the spinal ganglion could give rise to both pain and reflex muscular rigidity by the connexions of the central processes of these neurones. It has already been shown that those fibres which form arborizations in the spinal ganglia, are believed by Edinger to be sympathetic. This would be another synapse, the opening up of which would depend upon increased tonus of the involuntary musculature. The result of this accessory flow would be a true referred pain set up by a process analagous to the stimulation of the somatic sensory nerves, as in *herpes zoster* and *tabes dorsalis*. Such pain must, furthermore, be referred from the stimulating viscus to the origin in the body wall of the sensory fibres. The pain caused by the sympathetic fibre opening up a connexion in the grey matter of the cord with the pain group of cells on the other hand, may only partly be referred. This is because the cortex will probably recognize that the pain is in part visceral and not somatic, especially if the stimulus be constant, as in chronic conditions.

One point of interest in regard to the pain may be further discussed. It was at first diffuse and later more localized. Diffuse pain is due to a great area of stimulation of the cord opening up a large number of synapses at different levels. This may be brought about by the contraction of the muscle over a considerable area. This means that the stimuli from the infected mucous membrane of the appendix set the vagus arc into action over a considerable length of the gut, leading to contraction of its wall proximal and distal to the appendix. This hypertonicity causes pain and it sets the sympathetic reflex arc into action for dilatation. This can eventually occur everywhere except in the immediate vicinity of the appendix. Therefore, the pain persists in this region, while the more diffuse pain disappears.

Physiology of the Rigidity of the Abdominal Muscles.

It may be asked what is the purpose of this muscular rigidity of the abdominal wall?

Embyologically, as has already been mentioned, the parietal peritoneum is part of the somato-pleure of which the abdominal muscles later constitute the main basis. This layer, when stretched, gives rise to reflex muscular rigidity. This is seen in a ruptured ectopic gestation with profuse hæmorrhage, when the rapid effusion of blood into the pelvic cavity pushes upon the parietal layer and expands it. This explains rigidity in such a case. But I believe that stretching of the parietal layer is more liable to occur when it is the seat of inflammation. Muscular rigidity again results. Moreover, the extra-peritoneal layer may also be slightly inflamed and rigidity is then caused by reflex stimulation of the muscles as already explained.

From this the deduction may be made that the rigidity is for the purpose of preventing the stretching of the parietal peritoneum and the extra-peritoneal layer. In a phrase, it leads to immobilization of the entire somato-pleure.

But rigidity may occur without the parietal layer being involved. In this case the reflex arc is from the affected viscus to the anterior horn cells. This rigidity *per se* affords some protection from external injury to the injured viscus. Moreover, a contracted muscle is a tender muscle and this reinforces the protective capacity of the reflex rigidity.

A third and very interesting effect of rigidity may be that it overcomes the associated reflex normally existing between the abdominal muscles and the diaphragm during inspiration. W. C. MacKenzie in his "Action of Muscles" (1918) suggests this possibility. He says:—

> In inflammatory conditions of the abdomen, such as appendicitis and acute peritonitis, the patient will endeavour to keep the parts as immobile as possible by bringing into play the action of the thoracic muscles and by moving the diaphragm in inspiration as little as possible. Diaphragmatic movement in these conditions means visceral movement and visceral movement means pain. The abdominal muscles on one or both sides are kept in an apparent state of relative rigidity in these condition, but they must relax, though to no great extent, for purposes of inspiration. Diminution of abdominal breathing is an important sign of abdominal mischief.

The contraction of the diaphragm normally is accompanied by inhibition of the abdominal muscles. In an acute inflammatory condition of the abdomen the reflex rigidity renders this inhibition impossible and so minimizes the associated reflex contraction of the diaphragm which gives rise to disturbance of the viscera.

Muscular Tenderness.

A further subject is opened up for discussion by the fact that muscular rigidity is accompanied by muscular tenderness. Why are the two associated at a point such as McBurney's point? *Herpes zoster* may be accompanied by muscular rigidity and tenderness. Head and Campbell have shown that the disease is due to acute hæmorrhagic inflammation of the ganglia of the posterior nerve roots (9). The stimuli set up in the afferent fibres cause pain and any associated reflex rigidity. The tenderness at this stage is due to the stimulation of the cells in the ganglion which transmit deep sensibility impulses to the brain. If, however, a contraction of a muscle is produced reflexly and that muscle becomes rigid, the intensity of the afferent stimuli, added to the impulses from palpation of the part, determines a sensation of tenderness. This tenderness is most marked where the contraction is most marked. In the case of acute appendicitis the tenderness is in the region of the junction of the outer third with the inner two-thirds of a line which joins the anterior superior iliac spine to the umbilicus—McBurney's point.

MacKenzie mentions that Sherrington is engaged on experimental work which shows that the visceral afferents can give rise to reflex muscular rigidity of very localized areas. Moreover, MacKenzie says: "Some years ago I pointed out that these (abdominal) muscles had the power of contracting in small sections in response to visceral stimulation." This accounts for the accurate localization of the tenderness.

The Comparative Absence of Reflex Phenomena from the Hollow Viscera in Malignant Disease.

The final case selected for examination is illustrative of an instance in which there is grave abdominal condition without pain, without tenderness and without rigidity. Why should a man, aged 40, who has complained only of loss of weight for a year, a feeling of nausea and anorexia, be otherwise unaware that there is a gross malignant infiltration of the greater curvature of his stomach? The condition is grave and his life is in danger, yet the danger signals transmitted in other crises by the nervous arcs with which I have dealt, are not sent out to make him aware of his condition in the earlier stages.

Case X.—A similar instance but more convenient for purposes of illustration is one in the case of a man, aged 45, who had been complaining for some months of alternate constipation and diarrhœa, hæmorrhage *per rectum* and a bearing down pain at stool.

There was only a dull and occasional feeling of discomfort in the lower abdomen. There was no rigidity and no tenderness. The pulse and temperature were normal. Palpation of the abdomen revealed nothing except hard scybalous masses in his iliac colon. A rectal examination of the patient when asked to bear down revealed a ring-like mass with slight ulceration of the inner surface at a level in the rectum some inches beyond the anal aperture. On operation by a perineal method the ring cancer was exposed at the level of the peritoneal reflection from the rectum to the hinder wall of the bladder.

In this case the symptoms were mild in comparison with an infective condition of the appendix. The reason is that muscular contraction is not stimulated by malignant infiltration. In the case cited, microscopical examination proved the tumour to be an adenocarcinoma of the rectum. The gland cells, therefore, could extend beyond their mucous membrane and invade the muscle wall. They could interfere with its power of contraction and produce no marked symptoms. Later, ulceration of the gut membrane could occur and the reflex stimulus to the muscle of the wall could produce no effective contraction. Therefore, there was no intense inhibitory stimulus for dilatation and, therefore, no pain and no muscular rigidity. In a phrase then, the peripheral stimuli were in this case not intensified by the lesion of the gut

wall. We mainly depend on functional and not on reflex symptoms in the diagnosis of malignant disease. In the case of the stomach, for instance, hyperæsthetic areas may exist over the anterior wall. Any pain is of a dull aching character and is due to the inefficient contractions set up in the wall of the viscus; these reflex symptoms are not marked. Functional disturbance on the other hand is indicated by nausea, cachexia and hypo-acidity.

Summary of Deductions.

To summarize the deductions it can be claimed that an attempt has been made to interpret abdominal pain by tracing afferent stimuli:—

(*i.*) Along the somatic sensory nerves and

(*ii.*) Along the splanchnic sensory nerves.

It has been noted that:—

(1) The pain in peritonitis is due to stimulation of the somatic sensory fibres from the extra-peritoneal fat.

(2) Visceral pain is due to deep sensibility impulses from hypertonic involuntary musculature being transmitted to the same second relay cells as the somatic afferents. Internal pressure or tension is the result of this muscular contraction and not the exciting cause of the pain. The central pain path is largely common to both somatic and sympathetic systems. Visceral pain is often referred to somatic areas.

(3) The skin and extra-peritoneal fat sensory nerves are reflexly connected with the abdominal muscles. When stimulated in peritonitis by exudate or stretching of the parietal peritoneum, the extra-peritoneal nerves cause reflex rigidity of these abdominal muscles, the response of which may be localized and specific according to the site of stimulation.

(4) The gut wall is connected by sympathetic afferents to efferent sympathetic cells, which excite inhibition of the gut wall. Contraction of the ureter is brought about by a similar reflex. Pain occurs when the hypertonicity of the muscle is so great that the impulses can be transmitted by the pain path to the cortex.

(5) These sympathetic arcs have a collateral connexion with the abdominal muscles by way of the reflex through the anterior horn cells. This is the viscero-motor reflex of MacKenzie and rigidity of the muscles results from its stimulation.

(6) Rigidity stimulates fibres of deep sensibility and tenderness results.

Pain is caused by the stimulation of cells in the pain column of the posterior horn of the cord by either somatic or splanchnic fibres.

A common path for all the afferent fibres exists once the cells of the pain column have been reached, *viz.*, the posterior spino-thalamic path and the internal capsule, the latter conveying the impulses from the thalamus to the posterior central gyrus. Even in *tabes dorsalis*, in which the stimuli arise in the posterior nerve roots as a result, according to Obersteiner and Redlich (8), of inflammation of the *pia mater* involving the posterior nerve roots as they pass through it, the brain refers the stimuli to the skin of the legs and trunk and lightning pains result. These may be mistaken for "reflex" symptoms from the viscera if the pupil and knee jerks are not tested.

It is to be noted that in every case tabulated in the preceding paragraph, the impulse passes on through at least three relays to reach the *cortex cerebri* and the brain refers the pain back to the skin, but no impulse passes backwards. This is, of course, a simple fact which has long been demonstrated that a synapse can conduct in one direction only. The explanation of pain set forth does not break this rule. Further, to avoid confusion, I would suggest that the term viscero-sensory proflex be substituted for the term viscero-sensory reflex, meaning that the afferent sympathetic fibres conveyed impulses to the cells of the pain column, which transmit them onwards to the thalamus and thence to the *cortex cerebri*, and that the pain is then referred by the brain to the usual site of pain, the peripheral body wall.

I have examined cases in order to build up a clear knowledge of the nervous paths by means of which abdominal pain and its associated reflex phenomena may be explained. The test really is whether the hypothesis in regard to these details can be accepted as correct and whether the features characterizing pain caused by lesions other than those discussed can also be explained in this way. Why, for instance, should duodenal ulcer be associated with the "hunger" pain? First, take the case of gastric ulcer, in which an actual hour-glass contraction of the stomach may be produced by the efforts of the vagus to extrude the "foreign" mucous membrane. These intense impulses for contraction give rise to corresponding intense sympathetic impulses for reciprocal relaxation. The flow into the pain cells of the cord can thus occur. This pain is increased on taking food, because the impulses for contraction are further increased. After food has entered the stomach, the secretion within the duodenum, on the other hand, will be less until the gastric contents are again passed on, thoroughly acidified. The lessened secretion lessens the tension within the duodenum and so the impulse for inhibition in the case of duodenal ulcer will be less directly after the intake of food. As the main bulk of food passes on, however, half an hour or more later, thoroughly acidified, the alkaline secretions will also increase the tension and the pain will recur. In a word, the pain in duodenal ulcer is due to two factors:—

(1) Contraction of the muscle wall, with failure of reflex inhibition.

(2) Contraction stimulated by the duodenal contents.

The latter of these is the variable factor and can be reduced by the intake of food. Pain is only severe when the two conditions co-exist, because only then is the impulse along the afferent sympathetic fibre directed to the pain group of cells, as well as to its reflex connexion with the excitor sympathetic cells.

The pain of acute hæmorrhagic pancreatitis has already been explained as the stretching of the nerves within the coeliac plexus. The pain is violent and colicky in the upper part of the abdomen; it arises from impulses passing along the central pain path. Impulses also pass to the lateral horn cells and help in the relaxation of the gut wall. Tympanites results and with it constipation. The vagus is stimulated to bring about contraction usually without avail, but the overflow impulses to the vomiting centre cause vomiting. The cardiac centre is also stimulated

to reduce the rate of the heart. The general stimulation of the sympathetic efferent cells affects those sending axones into the sympathetic cardiac branches; the tendency, therefore, to slowing through the vagus is overcome and this results in the pulse becoming weak and rapid. The efferent sympathetic fibres through the gray rami stimulate the sweat glands and a cold sweat results.

CONCLUSION.

It may be well to consider how far the conclusions drawn are in accordance with known anatomical and physiological, as distinct from clinical facts.

It will be remembered that the afferent fibres of the gut wall on entering the cord are linked by local association neurones to three sets of cells:—

(1) Sympathetic cells of the lateral horn.
(2) Cells of the pain column.
(3) Cells of the anterior grey column.

The local association cells of the cord are of the Golgi type II. class. They are multipolar with several dendrites. A single axone can be detected forming a very rich ramification at a short distance from the cell body. These cells are undoubtedly for the purpose of bringing fibre sets into physiological relationship with other levels and with other systems. In this instance they connect together intimately the sympathetic and somatic nervous symptoms.

Referred pain is the result of the somatic sensory connexions and reflex rigidity is the result of the connexion with the somatic motor cells. But it has been shown that the intensity of the stimulus passing as an impulse along the sympathetic afferent fibre determines the number of association cells set into activity. Normal stimuli pass through an association cell to the sympathetic efferent cells and are concerned in the inhibition of the gut wall in peristalsis. More intense stimuli pass through an association cell to the pain column and impulses of still greater intensity are transmitted to the anterior horn cells. This idea of synapses having different values, is not a new one. Sherrington used this argument to overcome the the ill-conceived view that the different fibres in the grey matter offers different conductive resistance to impulses (10). He goes on to say that "the different resistance seems more probably referable to differences in the facility of conduction at different synapses. At each synapse there is a neurone threshold. At each synapse a small quantity of energy freed on transmission acts as a releasing force to a fresh store of energy, not along a homogeneous train of conducting material as a nerve fibre, pure and simple, but across a barrier which, whether lower or higher, is always to some extent a barrier. There is abundant evidence that different synapses differ from one another. That neurones should differ in the threshold value of the stimulus necessary to excite them seems only natural." He goes on to explain the co-ordination of ordinary somatic reflexes by this method. He illustrates it by considering the case of a sensory neurone with three synapses. He concludes that "the neurone threshold at the synapse with and of the neurones, is higher than the others." This case is employed to explain how a simple reflex becomes more complicated as the exciting stimulus opens up the more highly resistant paths of the cord.

According to the clinical hypothesis advanced as to the nervous connexions of the viscera which underlie abdominal pain, muscular rigidity and tenderness, these are the precise conditions present also in the case of the synapses formed by sympathetic afferent fibres, the probable modes of connexion of which have also been advanced from clinical investigation and await further confirmation by histological and physiological research.

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Congress Notes.

Organization.

We have been requested to call the attention of members of the Congress to Standing Order 15:

> Unless expressly provided otherwise by the Executive Committee, no paper nor report may occupy more than twenty minutes. No speaker in any discussion may occupy more than ten minutes. The author of any paper or report shall have the right of reply, not exceeding five minutes.

Travelling Arrangements.

The Honorary Secretary for New South Wales announces that vouchers must be presented at the railway booking offices at Sydney or other cities on the outward journey and at Brisbane on the return journey, to enable members to obtain tickets at concession rates. Sleeping berths and seats in the observation car can be booked a fortnight before the date of the commencement of the journeys. Concession tickets are available for members and their wives, but not for any other relative. A special train for members will leave Sydney on Friday, August 20, 1920, at 1.18 p.m.. Should the accommodation on this train prove insufficient, further arrangements will be made.

Members wishing to break the journey between Sydney and Brisbane can do so for a limited time by purchasing full rates tickets. The conditions are set forth on page 30 of the New South Wales Railway Guide.

The steamship *Bombala* is advertised to leave Sydney at noon on Saturday, August 21, 1920, and is due to arrive in Brisbane on August 23, 1920. No concessions have been granted on steamer fares.

OSLER MEMORIAL FUND.

We beg to acknowledge the receipt of the following contributions to the Osler Memorial Fund:

	£	s.	d.
Dr. R. H. Todd	1	1	0
Dr. J. W. Dunbar Hooper..	3	3	0

Total to date: £30 9s.

The Medical Journal of Australia.

SATURDAY, AUGUST 14, 1920.

The Tasmanian Muddle.

The General Medical Council in Great Britain not infrequently has to deal with disciplinary cases and as a rule disposes of these cases in a single session extending over two or three days. The determination of an alleged irregularity in the registration of an individual as a medical practitioner rarely offers any special difficulty. The law governing registration is definite and the duties of the General Medical Council are clear and straightforward. In Tasmania the reverse appears to be the case. In the year 1907 Victor Richard Ratten applied to the Court of Medical Examiners to have his name entered on the register as a legally qualified medical practitioner. The Court of Medical Examiners appears to have conducted its business in a very careless manner, for there is, as far as we are aware, no official records of the actual proceedings. It would be of value if it were recorded that the Court examined the document purporting to be a diploma of the Harvey Medical College of Chicago, that steps were taken to ascertain the status of this body, that inquiries were instituted concerning the course of study through which the applicant had passed to obtain this document, that the *bona fides* of the signatories had been subjected to scrutiny and that there had or had not been objection on the part of one of the members of the Court of Medical Examiners to the registration. Not only are there no records, but there does not appear to have been an actual register. The documentary evidence of Ratten's registration in 1907 is contained in the copy of the entries from an apparently non-existent register in the *Government Gazette*. Had the Court of Medical Examiners performed its duties in a strictly proper and business-like manner, the questions which have since been raised concerning the document on which Victor Richard Ratten's registration was effected, would probably not have been asked. Unfortunately, there is reason to doubt whether or not due care was exercised by the Court of Medical Examiners. The validity of the document in question has been challenged. The issue, even at the late date when the alleged irregularity was brought to the notice of the Tasmanian Branch of the British Medical Association, was a simple and plain one. The document purports to be a diploma certifying that the individual to whom it had been granted, had passed through a prescribed course of study and had passed a satisfactory examination required by the institution named on the document. If the Court of Medical Examiners has been deceived and if the document has been issued by a bogus institution, without any facilities for teaching and for the holding of proper examinations, it would be but common sense and good law to cancel the registration. The Tasmanian Government, for reasons well known to our readers, exhibited nervousness when the Medical Council summoned the respondent to appear before them to enable them to make proper inquiries into the genuineness or otherwise of this document. A law was passed in a hurry, transferring the power of removal of names from the medical register from the Medical Council to the Supreme Court. Later the Medical Council, in pursuance of its duties under this most absurd Act, proceeded to examine a series of charges lodged by the Tasmanian Branch of the British Medical Association. The respondent was again given an opportunity of appearing at the inquiry and of giving evidence on oath concerning his medical studies and the diploma held by him. Much information had been collected in Chicago in support of the charges and the Medical Council considered this information with care. Ratten did not appear to defend himself and consequently the Medical Council found that the Tasmanian Branch of the British Medical Association had made out a *prima facie* case and applied to the Supreme Court to remove his name from the register. The Chief Justice was called upon to try the issue. In the first place, the defendant claimed to be tried by jury. The next stage was concerned with an application by the informants for the issue of a commission to take evidence in Chicago, in order that the relevant evidence would be available to the Court. The arguments of counsel seem to have been tinged with personal feelings and the Chief Justice felt

himself called upon to rebuke counsel on this account. He has reserved his decision. Until that decision has been given, we are debarred from commenting on the case.

At this stage the Leader of the Opposition has defied all rules of judicial conduct by including this small incident in the context of a motion of censure on the Premier and his Government. The Speaker pointed out that any discussion on the Ratten case, which was *sub judice*, would be out of order. Mr. Lyons endeavoured to attack the Premier on the ground that, while the Government had undertaken to pay the expenses incurred by the Medical Council in connexion with the prosecution, the application to assist the defendant had been refused. No mention is made in the motion of the fact that Sir Walter Lee actually promised to pay Victor Richard Ratten's expenses in the event of a verdict in his favour. It is strange how far this simple matter has been dragged and how unnecessarily complicated it has become by political interference. The action of the Leader of the Opposition is, however, not a very serious matter, for the Ratten case was obviously utilized in the absence of a better "peg on which to hang his hat." It pales into insignificance in comparison with a Bill that has been drafted by another Labour member, Mr. Ogilvie. We have learned not to be surprised at anything that the Tasmanian legislators accomplish. It is even possible that this measure may provoke serious debate in Parliament. The Bill, if enacted, would remove the supposed doubts concerning the nature of Ratten's diploma. It declares the diploma to be genuine and forbids it to be questioned directly or indirectly in any court of law or by Royal Commission or in any other manner. No doubt Mr. Ogilvie is so impressed with the power of the Tasmanian Parliament that he includes the High Court of Australia in "any court of law." Under the present administration no sensible medical practitioner would consider a proposal to settle in practice in the island State, notwithstanding its many attractions. If the Government is successful in attracting medical practitioners from unknown American medical colleges to carry out the public medical work in the chief cities, the community will some day awaken from its lethargy and ask itself why Australian practitioners of good repute are not entrusted with the care of the sick poor. Until Parliament desists from interfering in matters of professional import, we shall consider it to be our duty to warn our graduates against applying for positions in Hobart and Launceston.

THE BACILLI OF DIPHTHERIA.

It has long been noted that true *Bacilli diphtheriæ* display variations in their morphological characters. Many bacteriologists have noted a granular appearance of virulent bacilli, while clubbed forms are met not infrequently. The granular appearance was first described by Much about fifteen years ago. It was suggested at that time that this peculiarity was caused by artificial cultivation on special media. Since it has been known that the majority of pathogenic bacteria occur in types, differing morphologically and biologically from one another, various attempts have been made to divide the group of true Klebs-Löffler bacilli into defined types. The most successful of these attempts has been made by Wesbrook. The bacilli which stain uniformly, are held to form two or three distinct types. Denny found that some of these forms lost the quality of solid staining on cultivation and displayed barring and granules after prolonged growth. Hitherto no one has been able to ascertain the actual causes of these morphological variations. The suggestion that the persistence of uniform staining properties is due to a diminished oxygen tension has been disproved. The majority of the American workers who have investigated the phenomena, have concluded that there are distinct types and that the standard type of solid staining bacilli, changing on prolonged cultivation to bacilli displaying bipolar staining or granulation, must be regarded as the virulent bacterium of diphtheria. This view has been challenged on more than one occasion on good grounds. Dr. Leon C. Havens has carried out an extended investigation into the significance of the variations of *Bacillus diphtheriæ*,[1] starting with the types which change their morphological qualities on prolonged culture. He has collected examples of solid staining bacilli which change to the granular forms on cultivation, but which revert to the solid staining on subculture. Other examples yielded bacilli which retain the granular appearance or bipolar staining after subculture. Tests proved that it is impossible to determine whether the bacilli were virulent or avirulent from their morphological characters. In the next place, he has endeavoured to learn whether the morphological qualities or the virulence is indicated by the power of standard sera to agglutinate the different types. He soon found that among a very large number of strains there were two groups. The larger group, represented by 169 strains out of a total of 206, possessed a common agglutinability to standard serum. The remaining 37 strains were not agglutinated by the serum, even in low dilution. These bacilli were well agglutinated in a high titre of homologous serum, which in turn failed to produce any agglutination with members of the larger group. It

[1] *The Journal of Infectious Diseases*, May, 1920.

was shown that this division into two groups did not correspond to any fixed morphological attribute. Each group contained virulent members. Further investigation revealed the fact that the antitoxin issued for general use is standardized against a member of the larger group. This standard antitoxin failed to protect animals against infection with strains belonging to the second group, save when very large doses were employed. This quality was tested in several ways and the result was always the same. An attempt was made to produce an antitoxic serum active to the bacilli of the second group. While this attempt was not entirely satisfactory, since the antitoxic power was low, it was shown that group 2 antitoxin was quite ineffective to infections caused by members of the first group.

The meaning of these determinations is perhaps not quite so simple a matter as Dr. Havens appears to regard it. It certainly seems as if we have two distinct types of diphtheria bacilli, each of which is capable of inducing ordinary diphtheria. The author ascribes the failure of antitoxin in certain cases of diphtheria as being due to the fact that ordinary antitoxin has but little prophylactic or therapeutic action when the bacilli of the second group are involved. If this proves to be a true explanation of the results of his experiments, his advice should be followed. It is that antitoxin should be prepared with bacilli of both groups. But before this is done, it is necessary to know whether the differences in biological behaviour are fixed, or whether they are artificially produced by cultural variations. It appears to us that it is dangerous to draw far-reaching conclusions from the study of biological qualities of bacteria, without any endeavour to ascertain whether these biological variations are or are not accompanied by definite biochemical variations *in vivo*. Dr. Havens and others have shown that under artificial conditions within the culture tube the chemical staining qualities of the bacilli change independently of any variation in the virulence of the bacteria. The appearance of granules or of bipolar staining indicates a physico-chemical alteration of the cytoplasm. It has not yet been demonstrated that granular forms occur within the animal body when the bacteria are growing freely. The behaviour of the toxin of Dr. Haven's group 2 bacilli within the body must be studied, as well as the bio-chemical products resulting from the absorption of the toxin, before it can be accepted that true diphtheria bacilli can be divided into two distinct types, each capable of producing the one disease.

AN EFFICENT ANTISCORBUTIC.

The history of scurvy has been told on countless occasions during the past few years for the purpose of emphasizing that the deficient food factor is found in considerable quantities in fresh fruits and vegetables and particularly in lemons and oranges. The substitution of lime juice for the juice of sweet lemons led to the re-appearance of scurvy in the Navy, after the supply of Spanish lemons had been stopped. In 1875 Sir George Nares experienced the unsatisfactory antiscorbutic properties of lime juice during his polar expedition. From the practical point of view, the fact that the vitamine concerned is readily dissociated by heat acted as an impediment in the storing of prophylactic substances, except whole fresh fruit. Surgeon-Captain P. W. Bassett-Smith, R.N.,[1] has recently experimented with the juice of fresh lemons and has devised a method of preserving this juice. The juice is first filtered through muslin and then through filter paper under reduced pressure. The filtered juice is then kept over sulphuric acid under greatly reduced pressure at ordinary room temperature. After a time the juice is concentrated to the consistency of a syrup. It is then transformed into a paste by the addition of anhydrous lactose (97%) and tragacanth (3%). The paste is cut into blocks, each corresponding to a half of a lemon. These blocks or tablets have been kept for months at temperatures vary from 15° to 37° C. and have been tested after long periods for their antiscorbutic action. The concentration of the juice without heat takes about five days. In the tests it was found that guinea pigs fed on a diet of bran and oats and heated milk died of scurvy between the thirtieth and the fortieth day. The addition of lime juice, as issued in the Navy, failed to protect the animals. Paste corresponding to one tenth of a lemon sufficed to keep the animals in good health. Captain Bassett-Smith has also examined the therapeutic properties of his paste. He gives few details. Since the lactose may undergo caramelization in the course of time, he suggests that it may be advisable to store the concentrated juice in bulk and to add the lactose and water at the time of issue. On the other hand, the loss of vitamine resulting from the caramelization of the sugar is extremely slight. It would seem as if this paste would be eminently suitable for long voyages, either in the Navy or in the mercantile marine. Tablets representing one half of a lemon are dissolved in water with a small quantity of bicarbonate of soda. Captain Bassett-Smith advocates the addition of this syrup to the pleasant tasting lime juice now issued.

"THE RATTEN DOUBTS REMOVAL BILL."

The following, according to the *Daily Telegraph*, of Launceston, of August 4, 1920, is the contents of a Bill to be introduced into the Legislative Assembly of Tasmania by Mr. Ogilvie, M.L.A.:

Whereas Victor Richard Ratten was, on May 22, 1907, duly admitted by the Medical Board of Tasmania and registered as a duly qualified medical practitioner in Tasmania; and whereas, after the lapse of twelve or more years supposed doubts have been raised as to the genuine nature of the diploma of Victor Richard Ratten; and whereas, on account of the very great benefits conferred on the people of Tasmania by Victor Richard Ratten, his pre-eminent skill as a surgeon, it is desirable, in the interests of the country at large, that such supposed doubts should be removed:

Be it therefore enacted:

This Act may be cited as the *Ratten Doubts Removal Act, 1920.*

It is hereby declared that the diploma of Richard Victor Ratten is genuine and of full force and effect and that the same shall not, directly or indirectly, be questioned in any court of law, or by Royal Commission, or by any process of law or otherwise howsoever or whatsoever, and all such supposed doubts are hereby removed, and the operation of this Act is retrospective.

[1] *The Lancet*, May 22, 1920.

Abstracts from Current Medical Literature.

OPHTHALMOLOGY.

(52) Prolapse of the Iris.

C. Goulden describes his practice in cases of iris prolapse after perforating wounds (*Brit. Journ. Ophthalm.*, May, 1920). When the wound is purely corneal the prolapse is grasped with an iris forceps, gently pulled in each direction to free it from the edges of the wound; the base of the prolapse is then held by a capsule forceps and cut with de Wecker's scissors. Sometimes it is advisable to make a small incision in the cornea opposite the accidental wound, through which a repositer may be inserted to free the iris caught by the peripheral lip of the wound. When the injury involves both cornea and sclera it is well to extend the conjunctival wound and with a suture passed through each edge to draw them apart. The corneo-sclera is then fully exposed and the prolapse dealt with; the conjunctiva is united by a few V-shaped sutures. A wound across the lower part of the cornea, involving the sclera on both sides, is best covered by a conjunctival flap, after the prolapse has been removed. The conjunctiva should be detached from the periphery of the cornea in its lower third and drawn straight across the cornea by two U-shaped sutures and fixed to the opposite limbus. In the often difficult operation of removing a non-magnetic foreign body from the anterior chamber, the following plan is suggested. A keratome incision is made in the cornea, half way between the centre and the limbus, in the quadrant overlying the foreign body, with the point of the keratome pointing towards the foreign body, which may be seized with a toothless iris forceps and withdrawn. Prolapse of the iris is prevented.

(53) Abducens Palsy.

R. O'Connor reports some further cases of his method of dealing with convergent squint from paralysis of the external rectus (*California State Journ. Med.*, March, 1920). The condition is not incurable, as is often stated in text-books. It is important to operate before contracture starts in the internal rectus, usually at the end of three months, if the paralysis is still complete. By this operation excellent outward rotation and binocular vision were secured. In regard to the technique of the operation, he points out that the externus and outer portions of the superior and inferior recti are exposed by a concentric incision 10 mm. from the cornea. The outer third of each vertical rectus is isolated, with its capsule, split far back and shaved off the sclera. The externus tendon is then isolated and, bared of its capsule, is divided lengthwise into three equal widths. The two lateral strips are cut free well within the fibrous portion of their junction with the muscle tissue. The central tongue of the externus is shortened by the author's double pitch method. The upper section of the externus is then united to the transplant from the superior rectus by a mattress suture and the lower section to the transplant from the inferior rectus. The conjunctiva is then sutured. The tenotomy of the internus should not be complete if the operation is undertaken before contracture has been established.

(54) Flavine in Ophthalmic Surgery.

Arnold Lawson relates his experience of flavine in eye work (*Trans. Ophthalm. Soc.*, U.K., Vol. XXXIX). Acriflavine is the methyl-chloride of diamino-acridine and proflavine is the hydrochloride or sulphate of the same base. Both these yellow dyes are potent antiseptics, proflavine being the less irritating to the conjunctiva. It is used generally in the strength of 1 in 1,000 as drops applied at least three times daily. After two or three days it is better used in a weaker solution, 1 in 4,000. In four classes of wounds flavine is of the highest value. Firstly, wounds caused by foreign bodies, dirty knives, *et cetera*. Secondly, in operations requiring sutures, such as advancement. Thirdly, where operation is necessary on a "dirty" eye. Fourthly, as a dressing for grafts of all descriptions. In conjunctival inflammations zinc and silver nitrate and its allies are to be preferred to flavine, but the latter may be used as an adjunct with advantage. In corneal ulcers, as a rule, flavine is not to be recommended, but it may be useful in bad hypopyon ulcers. It may be safely used to wash out the anterior chamber in these cases. It is useful in corneal perforation of *ophthalmia neonatorum*. Proflavine oleate (1 in 1,000) has proved beneficial in relapsing blepharitis.

(55) Naphtol-Camphre Oxydé in Trachoma.

G. Gerard advocates the use of oxidized naphthol-camphor as the caustic of choice in the treatment of trachoma (*Gazette des Praticiens*, May 10, 1920). Used first under the assumption that trachoma was a manifestation of tuberculosis, an assumption proved later to be groundless, naphthol-camphor nevertheless yielded better results than the usual remedies. It should not be used fresh; two parts of camphor and one of naphthol warmed slowly and filtered are left in a glass till the mixture assumes the consistency of syrup and a brown tinge. It is then at its best. It is most useful in the acute cases; in the chronic it needs association with treatment by silver nitrate and chloride of zinc. It is applied to the everted lids, the cornea being protected by the insertion of a double fold of gauze. If this is effectively done the pain is less than after copper sulphate. Applications are made two or three times a week. Great improvement is noticed after four or even two weeks.

(56) Occlusion Revealing Muscle Balance Errors.

F. W. Marlow directs attention to the value of prolonged monocular occlusion in revealing latent deviations not detected by the usual examination (*British Journ. of Ophthal.*, April, 1920). He instructs his patient to wear his correction, one glass being replaced by an opaque ground glass, constantly for a week without a moment's exception during waking hours. The test is then made. He comes to the following conclusions: (*i.*) A week's occlusion is generally sufficient, but a longer period has in some cases brought out a further deviation. (*ii.*) There has been shown a reversal of the direction of the deviation. (*iii.*) Prism duction gives no reliable indication of the presence or amount of a deviation. (*iv.*) The effect of an operation cannot be determined with certainty without an occlusion test. (*v.*) Prism exercises obscure an error. (*vi.*) The constant use of prisms does not increase an error.

(57) Iris Prolapse Operation for Glaucoma.

H. Herbert describes an improved iris prolapse operation for chronic glaucoma and comments upon the method (*Brit. Journ. Ophthalm.*, May, 1920). A subconjunctival sclero-corneal incision is made 6 mm. long. Through this section a wide fold of iris is drawn up under the conjunctiva, where it is transfixed and incised by the knife. Atropine is employed to prevent displacement of the pupil upwards. The iris becomes changed into white fibrous tissue, filtration of aqueous taking place at the margin of the prolapse. If the tension rises it may be reduced by repeated subconjunctival marginal incision of the prolapse. The method appears to combine certainty with safety. It avoids the risk of late infections after sclerectomy. A preliminary course of treatment by miotics before operation is an advantage, preventing the temporary post-operative rise of tension.

(58) Immediate Capsulotomy in Cataract Extraction.

A. G. Bennett advocates immediate capsulotomy in cataract extraction and describes his technique (*Americ. Journ. Ophthalm.*, December, 1919). The pupil should be thoroughly paralysed, as well as dilated by instilling atropine twice, two hours before the operation. He uses subconjunctival injection of cocaine and epinephrin, as well as cocaine instillation. Immediately the knife has passed the edge of the pupil the point is depressed and the capsule entered and made to emerge at the opposite edge of the pupil. The section is then completed with a conjunctival flap. The speculum is now removed and the patient told to look down. Then, with one thumb on the upper lid and the other on the lower lid, the lens is gently expressed. The author claims that by this means the lens comes out more cleanly and renders unnecessary washing out the anterior chamber. The iris, if prolapsed, is replaced and atropine instilled.

(59) Mobile Cyst of the Iris.

Edgar Stevenson reports a peculiar iridic cyst in a woman of 67 years (*Brit. Journ. Ophthalm.*, December, 1919). In the iris of the right eye there was an area of discolouration, 3 mm. wide, extending vertically downwards.

When she bent her head down a greyish-brown body appeared in front of the iris down to the base of the anterior chamber. The body looked like heavy lubricating oil pouring over the edge of a cup. On raising the head it slipped back over the edge of the iris. The sight was not affected.

LARYNGOLOGY AND OTOLOGY.

(60) The Quick Phasis of Vestibular Nystagmus.

That the quick phasis of vestibular nystagmus is not cortical in origin, nor a reflex with a central origin, nor yet a reflex caused by the muscles of the eyes is maintained by A. Rejtö (*Journ. of Laryng., Rhin., Otology*, April, 1920). He also rejects Brunner's theory that stimuli from the environs of the eyes induce the stimulus of the quick phasis in the primary nuclei of the third, fourth and sixth nerves, but contends that it arises from the stimulation of the maculæ of the labyrinth by the force of gravity. From the eighth nerve reflex stimuli proceed incessantly to the third, fourth and sixth nerves, through the cerebellum and, according to the nature of the stimuli, they result either in bilateral labile equilibrium (*i.e.*, the rest tonus) or in a co-ordinate bilateral movement of the eyeballs (*i.e.*, nystagmus). The different endolymph currents are the stimuli of the hair cells of the ampullæ and are in accordance with Shambaugh's law: Duration of endolymph current = duration of peripheral stimulation = duration of nystagmus. The rest tonus must be dependent on some other end organ. Rejtö considers that the maculæ are connected with the eye muscles and assumes that stimuli from the maculæ and from the canals do not proceed along the same nerve-paths, the former being also more dependent on the cortex. The maculæ control the different positions of the eyes when the position of the head is changed. The macula is stimulated both by the pulling and pushing forces of the otolith mass. As in each plane of the canals there is a macula, the double function of the labyrinth is served by these organs supplying the two opposite heterogeneous stimuli, which result in nystagmus, the force of the quick phasis being always the rest tonus of the labyrinth.

(61) Carcinoma of the Post-Cricoid Region and Upper End of Œsophagus.

A. Logan Turner, in the February, 1920, issue of the *Journ. of Laryng., Rhin., Otology*, gives an account of 140 cases of carcinoma of the *pars laryngea pharyngis* and upper end of the œsophagus. He points out that a malignant tumour is the most frequent cause of œsophageal stricture and especially affects the ostium and the aortic, bronchial and diaphragmatic constrictions. The squamous-celled epithelioma is the most common variety met with in the œsophagus (90% of cases—Butlin). As a rule, only one tumour is found, but there sometimes occurs a second growth at some distance from the first. The disease is at first superficial and confined to the mucous coat. It later encircles the tube and spreads in the long axis. Penetration of the muscular coat is followed by invasion of the tissues and organs in its immediate neighbourhood. The cervical glands may become enlarged and there may be implication of the recurrent laryngeal nerves, of the sheaths of the large vessels and even of the vessels themselves. The tracheal wall and laryngeal framework may be attacked and the thyroid gland may be secondarily involved. The pharyngeal mucosa in women appears to be more vulnerable or liable than in men, especially in its lowest part. The tumour also appears to develope at an earlier age in women than in men. The symptoms may be of sudden or gradual onset. Dysphagia is usually present; there may also be pain locally in the ears. A gurgling noise during deglutition is often heard, bleeding is uncommon and excess of mucous secretion in the throat is often present. Cough may be troublesome and there may be hoarseness. For diagnosis, palpitation of the neck, inspection with the laryngeal mirror, suspension laryngoscopy and œsophagoscopy and X-rays are useful. As a rule, only palliative measures, such as œsophagoscopy or gastrostomy, can be adopted, but in cases where the disease is not too extensive the statistics available seem to indicate that the expectation of life is improved by extirpation of the neoplasm by œsophagectomy.

(62) Nose and Throat Lesions Associated with Pulmonary Tuberculosis.

Based on the findings in over 3,000 cases at a state tuberculosis dispensary, H. Hershey Farnsler discusses the association of nose and throat lesions with pulmonary tuberculosis (*Pennsylvania Med. Journ.*, March, 1920). The lesions were tubercular and non-tubercular. The larynx was the organ most frequently involved with the former, being affected in about 20% of all cases. In the majority of these the lesions were incipient and greater involvement was associated with advanced pulmonary conditions. The lesions were unilateral or bilateral, usually the former. The arytenoids were most frequently affected, the inter-arytenoid fold and epiglottis often and in the ulcerative stage the epiglottis was most frequently found invaded. In more advanced cases the cords were sometimes ulcerated. Tuberculosis in the nose is rare and, when present, is usually low down on the septum in front. Pharyngeal and naso-pharyngeal involvement is exceedingly rare. As regards non-tubercular lesions, it is supposed that pulmonary tuberculosis causes a reduction of the resistance in the mucous membrane of the nose and throat, for only 3% of all the patients examined had those parts normal. An atrophic condition of the mucosa was most frequently found, a hypertrophic condition often, especially in incipient pulmonary cases. Anæmia of the respiratory tract was frequently found in far advanced pulmonary states; in these the tonsils were usually found atrophied or absent. In the incipient and moderately advanced cases diseased tonsils were present very frequently. The author holds that removal of the tonsils has a favourable effect on the lung condition in pulmonary tuberculosis.

(63) Aural Tuberculosis in Infants.

Douglas Guthrie (*Journ. Laryng., Rhin., Otology*, April, 1920) states that tuberculosis of the middle ear is a common disease of infancy, being noticed in 13 of 145 cases of chronic otitis in children below the age of 12 years. In all save one of these the disease commenced during the first year of life. He maintains that chronic middle-ear suppuration (*i.e.*, of more than two months' duration) is rare in infancy, apart from tuberculosis. In all except one of the 13 cases the onset was insidious and painless, the discharge being the first sign of the disease. In three cases an abscess had formed and ruptured through the skin, giving rise to a mastoid fistula. There was facial paralysis in seven cases and enlarged periotic glands in every case. Guthrie holds that, without doubt, the infection is milk-borne. Nine children included in his series had been fed with unboiled milk. He thinks the primary infection is in the naso-pharynx, whence it is conveyed to the middle ear *per tubam*. Histological evidence of tuberculosis in adenoids has been frequently reported. In nine cases the radical mastoid operation was performed and extensive bony necrosis was usually found. Microscopical examination of the scrapings confirmed the diagnosis in seven cases. Four of the patients operated upon did well as regards the ear condition. Three patients died within three months, probably from meningitis. Two of the patients on whom no operation was carried out died, two were unimproved two years later, but with the ear still moist.

(64) Acute Otitis Media Complicating Influenza.

Acute *otitis media* was a frequent complication in an epidemic of influenza occurring at an United States Base Hospital in 1918. J. C. Keeler (*Pennsylv. Med. Journ.*, March, 1920) states that the otoscopical appearances varied from a mild reddening of the tympanic membrane to hæmorrhagic vesication of the dermal layer of the osseous portion of the auditory canal, together with exfoliation of the same layer of the ear drum in the severer cases. He advocates early and free incision of the reddened membrane under a local anæsthetic, followed by four-hourly irrigation with 1 in 5,000 bichloride solution. Neglect to evacuate the inflammatory products in the middle ear cavity may lead to spontaneous rupture of the drum, but often by this time the mastoid or meninges have become involved. Spraying the nose and throat with a 5% solution of dichloramin-T in chlorcosane for fifteen minutes on two successive days was found efficacious in checking outbreaks of the epidemic.

British Medical Association News.

SCIENTIFIC.

A meeting of the Queensland Branch was held on July 2, 1920, at the B.M.A. Rooms, Adelaide Street, Brisbane, Sir David Hardie, the President, in the chair.

The President welcomed Dr. A. T. H. Nisbet on his return from active service.

Dr. R. Graham Brown showed some skiagrams of four cases of œsophageal obstruction due to aneurysm of the arch of the aorta, stricture, carcinoma and traumatic stricture caused by the swallowing of caustic. He also exhibited a skiagram of an extensive infection of the frontal sinus.

Dr. A. T. H. Nisbet showed several specimens of *sequestra* from amputation stumps, together with skiagrams demonstrating the sequestra *in situ* before operation.

Dr. J. A. Cameron read the notes of a case of actinomycosis. The patient was a man, aged 34 years. He gave a history of repeated attacks of abdominal pain. A large mass was discovered in the right side of the abdomen. The mass appeared to be an abscess of the appendix. At the operation the appendix, which was 12.5 cm. in length and was thick and stiff, was removed. The wound was drained. The patient left the hospital after three weeks. He returned at a later date. It was then found that the right rectus muscle was indurated throughout its entire length. The remainder of the abdomen was soft. The condition spread to the adjacent muscles. Soft areas developed. One of these was opened. Three months later sinuses formed in these areas and pus was discharged from them. It was held that the process was tuberculous. The sinuses were scraped and bismuth-iodoform paraffin paste was rubbed in. Fever appeared at this stage and râles were heard at the base of the left lung, with dulness at the base of the right side of the chest. No fluid was evacuated through an aspiration needle. The pus was examined and this gave the clue to the diagnosis. The patient gradually became weaker and eventually died. A partial *post mortem* examination was performed. The bowel in the neighbourhood of the appendix was healthy. The right half of the liver had been completely destroyed by the fungus, while the left half was normal. Dr. Cameron remarked on the tortuous tracts of the sinuses through apparently healthy tissue.

Dr. J. V. Duhig exhibited a slide made from the pus from Dr. Cameron's patient. The typical ray fungus was clearly seen.

Dr. G. P. Dixon, C.B.E., stated that he had found salvarsan very useful in the treatment of conditions of this kind. In some cases the mass broke down and had to be excised.

Dr. R. Marshall Allen said that he had seen three cases of actinomycosis in Dublin. The patients in all three cases had a large mass in the left iliac fossa and the diagnosis had not been made until some of the pus had been examined. They were treated with large doses of potassium iodide internally, while the sinuses were irrigated with copper sulphate solution.

Dr. A. S. Roe read a paper entitled "Urinary Infections" (see page 141).

Dr. D. A. Cameron held that bacilluria was a very important subject, which was frequently neglected. The treatment was most unsatisfactory, especially if there were no symptoms. Large doses of potassium citrate should be administered. If this proved unsuccessful, it should be alternated with hexamine and acid sodium phosphate. Autogenous vaccines were useless. Excision of the kidney should not be performed unless there were signs of pus in the kidney and urine. Lumbar drainage was often all that was necessary.

Dr. R. Graham Brown spoke of the part played by focal infection in general disease. He referred to the connexion between bacilluria and asthma.

Dr. J. V. Duhig stated that bacilluria and pyelitis were often confused. In cases of enlarged prostate, with residual urine, there was frequently no pus, although the urine contained large numbers of bacteria. The old theory of ascending infection did not explain every case. The infection was often conveyed by the blood. Pyelitis in women was usually due to intestinal stasis caused by an obstruction, such as the pregnant uterus or a fibroid. Vaccines were not successful in cases of bacterial infection of the urinary tract.

In his reply, Dr. A. S. Roe agreed with Dr. Cameron that vaccine treatment was of little use. In children hexamine often caused straining and the passage of blood. Better results could be obtained with alkalies and bowel treatment. Bacilluria was of frequent occurrence and indicated that the patient had some focus of infection which should be diligently sought and treated. Excision of the kidney was occasionally necessary and the results were very gratifying.

Dr. J. B. McLean, D.S.O., read some notes on Bennett's fracture and exhibited 25 skiagrams of this condition.

Dr. A. V. Meehan congratulated Dr. McLean on his very excellent series of plates. He considered that the use of a roller bandage for fracture of the metacarpal bones was to be condemned. He used a "half cock-up" splint, extending from the wrist to the metacarpo-phalangeal joints. The great difficulty was to secure extension. If this method were employed, union would occur in ten days, even after two or three weeks with other methods of treatment. It was, he stated, necessary to cause the patient to close both hands to disclose shortening and over-riding. Dr. McLean has shown them clearly the disability resulting from these so-called trivial injuries and the difficulty in securing good apposition. In many cases operative interference, with mechanical fixation, was essential.

Dr. D. A. Cameron stated that he had found the "tennis racquet" method of fixation good for practices caused by gun-shot injuries.

Dr. J. Lockhart Gibson considered that the real danger lay in keeping the joint at rest for too long a period. He would not sanction rest for longer than ten days. After that period he commenced active movements.

Dr. A. T. H. Nisbet inquired how frequently subluxations were found. In his experience dislocation of the joint was often present. The joint should be moved early to prevent fibrous thickening.

Dr. J. J. Power, D.S.O., related his experience with the "tennis racquet" splint in France. Extension and early movement were essential. If these points were attended to, stiff joints did not result.

Dr. McLean, in reply, stated that it was impossible to reduce a Bennett's fracture by traction. Extension apparatus was not successful, because the patients so often manipulated and fiddled with the splint. There were two types of fracture: (*i.*) those involving the joint and (*ii.*) those which did not. It was difficult to employ early movement, on account of the pain caused. Moreover, it was not necessary if the joint was not involved. In cases with joint involvement, early passive movement was necessary. An X-ray examination should be carried out in every case of injury to the thumb, not only for diagnostic purposes, but also to determine the method of treatment.

J. P. O'Hara, Esq., M.B., B.S. (Univ. Melb.), 1920, of Brisbane has been elected a member of the Queensland Branch.

The undermentioned have been nominated for election as members of the New South Wales Branch:

John Irvine Hunter, Esq., M.B., Ch.M. (Univ. Sydney), 1920, Wesley College, Sydney University.

Alexander MacCredie Luker, Esq., M.B., Ch.M. (Univ. Sydney), 1918, 42 College Street, Sydney.

The Australasian Medical Congress.

The Idea and its Application.

At the annual meeting of the South Australian Branch of the British Medical Association in 1886 a proposal was made by the Council that a medical congress should be established and that the first session should take place during the jubilee year of the reign of Queen Victoria. The members of the Branch accepted this suggestion and proceeded immediately with the appointment of a Committee to draw up a scheme for a Congress and to issue invitations to the various Australasian colonies to participate in it. On December 11, 1886, this Committee reported progress to a meeting of subscribers. The personnel of the Committee was as follows: Dr. (now Sir) J. C. Verco, Dr. W. L. Cleland, Dr. W. T. Clindening, Dr. T. W. Corbin, Dr. W. T. Hayward, Dr. W. Gardner, Dr. B. Poulton, Dr. E. C. Stirling, Dr. J. Davies Thomas and Professor A. Watson. Dr. B. Poulton had been elected Honorary Secretary. A preliminary announcement had been

sent in September to "every known and accredited member of the profession in the Australasian and neighbouring colonies." Notices had been published in the two medical journals in Australia and in the leading British, French and Indian medical journals. The Council of the University of Adelaide granted the use of rooms in the University buildings for the purpose of holding the Congress during the August-September vacation in 1887. The provisional Committee recommended that the Governors of the Australasian colonies be asked to become Patrons and that the Presidents and Chairmen of the various medical societies in Australasia be asked to become Vice-Presidents. At this meeting Dr. Verco was appointed President of the Congress, Dr. W. T. Hayward Honorary Treasurer and Drs. W. Gardner, E. W. Way, J. Davies Thomas, Professor A. Watson, Drs. H. T. Whittell, E. C. Stirling, M. J. Symons, O. Görger, A. A. Lendon, A. S. Paterson, W. L. Cleland, R. Stewart, W. A. Giles, J. A. G. Hamilton, W. T. Clindening, T. W. Corbin, M. R. H. Jay, J. T. Toll and the Honourable John Cockburn, M.D., Minister of Education, were appointed members of the Executive Committee. Arrangements were made with the Governments of the various colonies for concessions in the purchase of railway tickets. A return ticket was issued to practitioners producing their Congress ticket at single fare rates in South Australia, Victoria and New South Wales. Sir W. C. Robinson, G.C.M.G., accepted the position of Patron, as did the Governors of the other colonies, and he opened the Congress in person. The Congress met on August 30, 1887, and was attended by 155 practitioners. Of these, 89 were resident in South Australia. The Lord Mayor of Adelaide entertained 100 members at luncheon in the Town Hall Banqueting Room. The welcome extended by the City and the State was very cordial and His Excellency the Governor, in opening the first Congress, paid a genuine tribute to the importance of the learned profession of medicine. Quoting Longfellow,

> Joy, temperance and repose
> Slam the door on the doctor's nose,

he pointed out that temperance was open to everyone to practise, while joy and repose were not so readily commanded. He dealt briefly with the prevention of disease and reviewed in a few words the important programme of the Congress. Dr. B. Poulton read a report of the Executive Committee, dealing with the preparatory work. It is on this report that the organization of the successive sessions of Congress have been based. No mention, however, is made of one very important fact. It is that the conception of the idea of an inter-colonial medical congress was Dr. Ben Poulton's.

Dr. J. C. Verco's presidential address, like every other address that he has delivered on important occasions, is full of scientific wisdom and contains a wealth of facts marshalled skilfully in neat phrases, which everyone can understand. It is curious to note that, although a third of a century has passed since he delivered the first presidential address, he complained at that time of the long voyage to Europe, which extended to a whole month, as an absolute barrier to any but the most limited participation at international congresses in Europe.

The scientific contributions to the first congress were not numerous, but they were interesting and important. Mr. T. N. Fitzgerald's address in surgery epitomized the position of surgical practice at that time. Dr. H. T. Whittle's address in state medicine dealt largely with the same problems that have to be met to-day. Dr. Joseph Foreman read an excellent address on gynæcology, while the more specific communications aroused considerable discussion and interest. The entertainments were numerous and visits to institutions of hygienic importance also took place.

Professor (now Sir Harry) Allen, supported by Dr. J. O. Closs, invited Congress to hold its next meeting in Melbourne in 1890, "or at such time as the medical societies of Victoria shall determine." Mr. T. N. Fitzgerald was elected President, on the motion of the Honourable J. M. Creed.

It is strange to learn at the eve of the eleventh Congress that the total receipts in connexion with the first Congress amounted to £193 10s. 4d.. In addition to the members' subscriptions, there was a grant of £10 from the South Australian Branch of the British Medical Association, a special subscription of £5 5s. from Dr. Morgan, a present from Dr. Thomas of £5 2s. in respect of certain printing, proceeds of the sale of extra copies of the *Transactions* amounting to £16 11s. 4d. and interest.

Melbourne.

The second session of the Congress was a larger and more developed replica of the first. Much care was exercised in the selection of office-bearers. Professor (now Sir Harry) Allen bore the brunt of the work as General Secretary. The Associate Secretaries were Dr. (now Sir James) Barrett and Mr. G. A. Syme, while Dr. George Graham acted as Treasurer. There were eleven Sections, as follows: (*i.*) medicine, (*ii.*) surgery, (*iii.*) hygiene, forensic and state medicine, (*iv.*) anatomy and physiology, (*v.*) pathology, (*vi.*) obstetrics and gynæcology, (*vii.*) diseases of the eye, ear and throat, (*viii.*) psychological medicine, (*ix.*) pharmacology, (*x.*) diseases of the skin and (*xi.*) diseases of children.

The names of the office-bearers of the Sections reveal the care with which the preparations for the Congress were made. The Government of the Colony made a grant to cover the cost of the publication of the transactions. Congress was opened on January 7, 1889, by His Excellency the Governor of Victoria. Approximately 550 members had joined the Congress. The Chancellor of the University of Melbourne had placed the Wilson Hall and other buildings of the University at the disposal of the Congress. In His Excellency's speech two references are worthy of note. In the first place, he called attention to the coincidence of the centennial celebrations of Australasia and the first medical congress in Melbourne. In the second place, he suggested that the Congress might adopt the rule advocated in the Colony as the great panacea against all ills of eight hours' work, eight hours' sleep and eight hours' play. Mr. Fitzgerald's presidential address was a masterpiece. Clothed in excellent language, his views on the significance of the Congress, on the position of the profession in Australasia, on the need of development of social endeavour, on the alcohol question and on the problems of the prevention of tuberculosis and enteric fever may well claim our careful study to-day. In regard to alcohol, Mr. Fitzgerald was at pains to find an adequate explanation for the statistical fact that the number of deaths set down to drink was more numerous than that in even the most intemperate countries. He claimed that habitual drunkenness was an exception and that the great gatherings were usually characterized by orderly conduct and the absence of rowdyism. He held that alcohol wrought greater damage to those who indulged in it in Australasia than elsewhere. Prohibition was not a practical proposal in those days.

The transactions of the Melbourne session occupy 1,029 pages. We must therefore content ourselves with a brief reference to the more important discussions that took place. The Presidents of the Sections each delivered an address to the whole Congress. Two general meetings were held at which the subjects of discussion were hydatid disease and enteric fever. Dr. J. B. Thomas, of Adelaide, opened the discussion on hydatid disease and was followed by Dr. W. Gardner, Dr. J. C. Verco, Dr. J. R. M. Thomson and many other prominent clinicians and pathologists. The discussion on enteric fever was opened by Dr. James Robertson, of Melbourne, while Dr. J. G. Carstairs, Professor H. B. Allen, Dr. A. V. Henderson, Dr. F. E. Hare and Dr. F. H. Bonefin were the chief speakers. It is also interesting to note that Dr. J. W. Springthorpe read a paper entitled "The Nervous Substratum of Influenza." Resolutions were carried to the following effect:

> (*i.*) That the members of the Inter-colonial Medical Congress regard it as proved that typhoid fever is a preventible disease which owes its prevalence to insanitary conditions and above all to contaminated water supply, defective drainage and improper disposal of night-soil.
>
> (*ii.*) That while there is reason to believe that the water supply of Melbourne is carefully guarded, it is certain that as regards drainage and night-soil disposal, the arrangements are very unsatisfactory and to these defects must be ascribed in a great measure the excessive prevalence of typhoid fever year after year.
>
> (*iii.*) That in the opinion of the Congress it is the imperative duty of the Government to take immediate steps for bringing about an improvement of the sanitary condition of Melbourne and specifically for the construction of a proper system of underground drainage, which shall include the removal of night-soil by water carriage,

An interesting incident is recorded as having taken place at the plenary session. At the suggestion of the South Australian members, the President presented Dr. B. Poulton "with a silver inkstand appropriately inscribed, in place of the one which he had worn out in the service of the Committee" and a purse of sovereigns, as a token of appreciation of his services.

The Government of Victoria provided Hansard shorthand reporters for the general meetings of Congress. The speaker of the Legislative Assembly entertained the members of Congress at dinner, His Excellency the Governor received the members of Congress at Government House in the evening of the third day, the Mayor of Melbourne gave a reception to the members and the President invited the members to a dinner.

The Congress resolved to accept the invitation extended by Dr. Phillip Sydney Jones to meet in Sydney in 1892, or earlier. Dr. H. Normand MacLaurin, at that time Medical Adviser of the Government of New South Wales and President of the Board of Health, was elected President.

The Third Session, Sydney.

The third session of Congress was held in September, 1892. During the year of preparation much difficulty was experienced, ink spilt and intolerance displayed in connexion with an alleged irregularity in the appointment of the Executive Committee and of the honorary treasurers and honorary secretaries. The social side of the meeting was undoubtedly influenced to a considerable extent by the financial disasters following the land boom. The Honourable H. Normand MacLaurin was compelled to resign his position as President of the Congress and Dr. Phillip Sydney Jones was appointed in his stead. Dr. Thomas Chambers filled the position of Honorary Treasurer and Professor T. P. Anderson Stuart and Dr. Samuel T. Knaggs were the joint Honorary Secretaries. The original scheme of patrons and vice-presidents was maintained. The Congress was held within the buildings of the University and, as usual, His Excellency the Governor of the Colony opened the proceedings. The number of Sections was reduced to five.

The Government of New South Wales entertained the members at a picnic at the Quarantine Station at North Head. The President gave a dinner to about 400 members. The members of the Congress arranged a conversazione, which was held in the Great Hall of the University, and the Trustees of the late Thomas Walker received the members at the Walker Convalescent Hospital.

Certain resolutions were passed, directing attention to the danger of a large, unvaccinated community being attacked by small-pox. The Congress also dealt with the certification of insanity and registered its opinion that no single test for insanity in criminal cases was capable of general application and that it was in accord with medical opinion at that day to define insanity as a disease of the brain affecting the intellect, the emotions and the will and not immediately induced by default of the individual. This left two questions for the jury: Is the accused affected by such a disease? Was the act the outcome of the disease? A series of resolutions dealing with the significance of post-nasal growths was also adopted.

A resolution was passed to the effect that it was desirable to found an Australasian medical journal. It is interesting to note that 22 years later this idea was carried into effect as far as the Commonwealth is concerned.

The Otago Branch of the New Zealand Medical Association issued an invitation to the Congress to hold its fourth session in Dunedin and Dr. F. C. Batchelor was elected President.

The Dunedin Session.

The fourth Session of the Intercolonial Medical Congress of Australasia was held in Dunedin, New Zealand, on February 3, 1896. After the Sydney meeting, the President, Dr. F. C. Batchelor, had called a meeting of medical practioners interested in the Congress and at that meeting an Executive Committee had been appointed. Dr. J. O. Closs was elected General Treasurer and Professor J. H. Scott and Dr. L. E. Barnett the General Secretaries. It is noticeable that the Governors of all the colonies, with the exception of that of Queensland, accepted the positions of Patrons. The Vice-Presidents were to a large extent the Presidents of the various medical societies in the different portions of Australasia. The Congress was divided into the same five sections as the third, but a special sub-section for diseases of the eye, ear and throat was attached to the Section of Surgery. The Executive Committee had considered a suggestion to create a section of dental surgery. As the Committee did not regard the decision as a matter coming within their province, the question was referred to the full Congress.

The only other matter to which we would draw attention at the present time in connexion with the preparations for Congress, was that of the travelling facilities. The Government of New Zealand was so impressed with the importance of the gathering that it issued free passes upon the railways to the members and their wives.

At the plenary session on the first day of the Congress, Dr. J. W. Springthorpe proposed that the Executive Committee of the next Congress should be instructed to consider the question of the establishment of a dental section and should be given power to take action. It was held that the effect of the institution of such a section would be to raise the standard of the practice of dentistry. The proposal was adopted.

A memorial from the Women's Christian Temperance Union on the subject of the *Contagious Diseases Act* was presented by Professor J. H. Scott and was referred to the Public Health Section. Unfortunately, in the records available to us, the views put forward by this society are not set out. They would probably be of interest.

Dr. L. E. Barnett brought forward the question of the desirability of establishing an intercolonial medical journal. He stated that the profession in New Zealand was very anxious to possess an intercolonial journal. At that time there was a small quarterly journal published in New Zealand and there had been three journals published in Australia, the *Australasian Medical Gazette*, the *Australian Medical Journal* and the *Intercolonial Quarterly Journal of Medicine and Surgery*. Objections had been raised to the proposal to amalgamate the *Australasian Medical Gazette* and the *Australian Medical Journal*. The *Intercolonial Quarterly Journal of Medicine and Surgery* had amalgamated with the *Australian Medical Journal*, under the title *Intercolonial Medical Journal*, just before the Congress. Dr. Barnett stated that the *New Zealand Medical Journal* might seek amalgation with either the Sydney or the Melbourne journals.

Dr. G. A. Syme, the Editor of the *Intercolonial Medical Journal*, spoke strongly in favour of amalgamation. Certain difficulties would have to be overcome and he thought that the establishment of an Australasian Medical Association might overcome the chief of these.

Dr. S. T. Knaggs, the Editor of the *Australasian Medical Gazette*, stated that the *Gazette* was the property of the Australian Branches of the British Medical Association. He dealt with the difficulties in connexion with the issue of a New Zealand supplement to an Australian medical journal. Dr. F. H. Jeffcoat made the proposal that the British Medical Association should be asked to publish an Australasian edition of the *British Medical Journal*. Dr. D. Colquhoun stated that he had made this proposal to the General Secretary of the British Medical Association three years before, but that it had been received unfavourably. He therefore moved that a Committee be appointed to consider the question of forming a union of the Australasian medical associations and to report to the next Congress. The motion was seconded by Dr. Springthorpe and was opposed by Dr. Ralph Worrall, who maintained that many members would never consent to sever their connexion with the British Medical Association. Professor H. D. Allen counselled the wisdom of going slowly and moved an amendment to the effect that negotiations should be opened with a view to securing a fully representative medical journal for Australasia. Dr. W. T. Hayward opposed Professor Allen's suggestion on the ground that the matter would be submitted for consideration and report to a Committee limited to members of one colony. The amendment, however, was carried by a large majority.

The President's address and the discussion on tuberculosis in man and animals, opened by Professor A. Watson, each deserve a detailed summary. It is, however, impossible to give these important speeches more than mere mention. A strong intercolonial committee was appointed to study the question of the spread of tubercular disease and to report to the next Congress. Other resolutions, dealing with the prevention of tuberculosis, the improvement of school hygiene, the administration of sanitary and public health laws

and the testing of vision of persons employed at sea or on railways were discussed and some were adopted. The question of the *Contagious Diseases Act* was referred to the next meeting of Congress. It was resolved that the fifth Session of Congress should be held in Brisbane and that Dr. John Thomson should be elected President.

The Brisbane Meeting.

On September 18, 1899, the Congress was opened in Brisbane. The President, Dr. John Thomson, had displayed during the period of preparation an immense amount of activity and zeal and had secured the able assistance and collaboration of Dr. Wilton W. Love and the Honourable W. F. Taylor, M.L.C., as General Secretary and Honorary Treasurer. The Executive Committee had apparently been appointed from the then-existing two medical societies in Brisbane. District representatives of the five divisions of the colony had also been appointed. A guarantee fund had been started and approximately £440 collected. The Queensland Government issued free railway passes to members and their wives for a period of one month, available over all Queensland lines. Other concessions were obtained in regard to railway and shipping travel.

His Excellency the Governor, Lord Lamington, presided over the inaugural ceremony in the Centennial Hall, while the opening meeting was held in the Lecture Theatre of the Technical College.

Dr. W. Kent Hughes failed to secure a seconder to the motion: "That a Dental Section be formed at the next Congress." The President ruled that the Congress had no power to include dentists, "as they were not properly qualified medical men." It was also determined at the opening meeting that the question raised by the Women's Christian Temperance Union in connexion with the proposed extension of the *Contagious Diseases Act* in certain colonies should be referred to the Public Health Section. The Presidential address covered a very wide field. It contained many references to scientific and medico-political problems which still await a satisfactory solution.

There were six sections, all entrusted to the care of competent members of the profession. A very useful discussion took place on the relationship of the medical profession to the friendly societies.

The Public Health Section arrived at the conclusion that it could not agree with the Women's Christian Temperance Union, who sought the assistance of the Congress for the purpose of opposing the extension of the *Contagious Diseases Act*. This decision, when referred to the general meeting, received the approval of practically every member. It was held that the Act was necessary and beneficial.

A resolution of great importance was carried by the Section of Public Health and endorsed by the Congress. It was to the effect that a Board be appointed, consisting of the principal medical officers and another member of the Army Medical Corps in each Colony, to act in an advisory capacity in regard to the peace and war-time requirements of the Army Medical Corps.

Another resolution which was adopted by the Congress, was that urging the Governments to introduce radical changes in the constitution, management and maintenance of charitable institutions, with the object of preventing abuse. In connexion with isolation hospitals and the notification of infectious disease, the Congress recorded its opinion that notification should be enforced and that persons suffering from infectious disease should be adequately isolated. A special sub-committee submitted a report recommending the Government of Queensland to accept the Venice Convention of 1897 in regard to the greater number of the recommendations, but to refuse the provision of a ten days' surveillance in respect to suspected ships.

The following motion, which was proposed by Dr. W. L'Estrange Eames and seconded by Dr. J. R. Purdy, failed to secure a majority after full discussion:

> That, in view of the early federation of the Colonies and the enormous commercial interests at stake, this Congress recommends to the Colonial Governments the advisableness of holding a conference at an early date, at which commercial representatives from every Colony should be present to point out to the various medical experts the dislocation in trade and the disabilities to shipping caused by the imposition of quarantine.

On the recommendation of the Section of Eye, Ear, Nose and Throat, the Congress expressed the opinion that the hours of school work and home lessons for girls between 12 and 15 should be reduced and that school teachers in training schools should be taught to recognize symptoms indicative of defective vision or hearing in school children. A further resolution, dealing with vision tests for navigators and engine drivers, was also passed.

Professor Anderson Stuart delivered a popular lecture on "Flies and Their Allies in the Spread of Disease." Mr. C. J. Pound, the Government Bacteriologist, gave a series of bacteriological demonstrations. Dr. J. Ashburton Thompson dealt with consumption and its mitigation in his Presidential Address in the Section of Public Health delivered before the whole Congress.

In regard to the social functions, it appears that Dr. Thomson, the President of Congress, gave a ball, Dr. David Hardie, the President of the Medical Society of Queensland, entertained the visitors at a moonlight party in the Botanic Gardens, the Mayor and Mayoress gave a reception, as did the Governor and Lady Lamington. The Premier entertained the members at a river picnic. The Queensland Branch of the British Medical Association organized a medical picnic, the Johnsonian Club gave a supper and the minister of the Presbyterian Church held a conversazione for Scottish graduates and their friends. An invitation from the medical profession of Tasmania to the Congress to hold its next meeting at Hobart in 1902 was accepted and Dr. R. S. Bright was elected the President.

The Congress in Hobart.

In June, 1900, Dr. Bright called upon the members of the Medical Section of the Royal Society in Hobart and of the Launceston Branch of the British Medical Association to appoint an Executive Committee. The Honourable G. H. Butler was appointed Honorary Treasurer and Dr. Gregory Sprott was appointed Honorary Secretary. In October, 1901, Dr. Bright died suddenly. The work had progressed by this time almost to the stage of completion. The Treasurer agreed to act in the place of his deceased colleague, while Dr. J. E. Wolfhagen became Honorary Treasurer. The Governor-General of Australia accepted the position of Patron, together with the Governors of the various States. At a later stage it was resolved, on the motion of Dr. (now Sir Joseph) Verco that the title of the Congress be changed from Intercolonial Medical Congress of Australasia to the Australasian Medical Congress, in view of the fact of Federation.

It is interesting to note that the railway authorities in all the States and in New Zealand and the shipping companies offered considerable concessions to members attending the Congress. The Executive Committee reported that, in accordance with instructions received from the last Congress, a medical defence association had been formed in Tasmania, Queensland and Western Australia. The Committee recorded with regret that the proposal of the Western Australian Branch of the British Medical Association to establish a section of medical ethics and politics had been received too late for action to be taken.

The subject of cancer was selected for special discussion and Professor H. D. Allen was asked to introduce it. There were six sections.

At the general meeting of the Congress Dr. John McCall moved: "That, in the opinion of this Congress, the time has arrived when it will be in the best interests of the medical profession to establish an Australasian Medical Association." Dr. G. A. Syme seconded the motion *pro forma*. Dr. Ralph Worrall opposed the motion very strenuously and received able support from Dr. G. T. Hankins. Professor H. B. Allen pointed out that the Victorian Branch of the British Medical Association was a feeble society as compared with the Medical Society of Victoria. Dr. W. Macansh referred to the offer of amalgamation by the Council of the Victorian Branch of the British Medical Association, while Dr. E. Hinchcliffe pointed out that the 300 members of the Medical Society were unable to accept the terms offered by the 20 members of the Victorian Branch of the British Medical Association. The question was settled in a somewhat irregular manner. Dr. Worrall moved an amendment and Dr. Verco moved a second amendment, which the Chairman, in contravention of ordinary procedure, accepted. Dr. Verco's amendment dealt with the title of the Congress and was carried. Whether it was adopted as a substantive resolution or not is not recorded in the proceedings. Several other important matters

were dealt with, both in the Sections and by the whole Congress.

The President and the Executive Committee held a reception and the President gave a dinner. Senator Macfarlane gave a garden party, as did His Excellency the Governor and Lady Havelock. The Premier and Mrs. Lewis were "at home" to the members of the Congress and the Mayor of Hobart gave a garden party. The Union Steamship Company of New Zealand offered the members of Congress an excursion trip on the steamer *Oonah*.

An invitation from the Western Australian Branch of the British Medical Association to the Congress to meet in Perth was refused on the ground of distance. It was therefore resolved to accept an invitation from the medical profession in South Australia. Professor E. C. Stirling, C.M.G., F.R.S., was elected President.

The Second Cycle.

Adelaide.

Congress returned to its birth-place on September 4, 1905, considerably developed and in a condition of vigour. Its name had been changed and it had the advantage of the experience of six sessions, but it was the same Congress and was founded on the same organization as that of 1887. The profession in South Australia had been wise in again selecting Dr. B. Poulton to act as General Secretary. Dr. W. T. Hayward was elected Honorary Treasurer. A large "General Congress Committee" had been appointed and this Committee had determined that there should be seven sections. One innovation is noted, namely, the institution of a Section of State Medicine and Medical Ethics. The large committee selected the presidents and vice-presidents of the sections and the local secretaries in the various States. This committee also appointed Dr. J. B. Gunson Associate Secretary. The management of the Congress was then practically handed over to an executive committee. The usual practice was followed of inviting the Governments of the several States and of New Zealand to appoint representatives. On this occasion, however, no representative of Victoria was appointed. The Government of South Australia undertook to print the Transactions and allowed the members of Congress to travel on its railways at half fares. Concessions were also offered by the Railway departments of the other States and by the shipping companies. The Congress, as before, was held within the University of Adelaide. It appears that 318 members paid their subscription.

In order to remove an anomaly arising from the practice of sending resolutions from the Sections to the plenary session on the last day of Congress, when the members were anxious to hurry away, Dr. W. T. Hayward moved that all resolution adopted by Sections should be reported to the Congress, but that discussions should take place only in connexion with special resolutions submitted by the Sections for adoption by the Congress. The proposal was adopted.

Professor Stirling's address to the Congress was probably the most imformative and masterly of the presidential utterances.

The President introduced a new procedure at the final general meeting. He recognized that, in order to get through the business with dispatch, strict rules of debate were required and he tested the sense of the meeting in regard to the application of the closure. It was resolved on the recommendation of the Section of Medicine that X-rays, radium and Finsen light should be used exclusively by members of the medical profession or under their direct supervision. Unfortunately, Congress did not give any indication concerning the measures that might be taken to prevent non-members of the medical profession from using these diagnostic and therapeutic agents. A series of resolutions from the Section of Public Health found acceptance at the general meeting. These resolutions dealt with the questions of school hygiene, the compulsory notification of pulmonary tuberculosis, the establishment and maintenance of sanatoria for indigent consumptives, the necessity of two daily deliveries of milk in the cities and the desirability of attaining uniformity in the compilation of vital statistics.

A recommendation was sent by the Section of State Medicine and Medical Ethics for the appointment of a committee to consider the best means to be adopted to amalgamate the various medical organizations throughout Australasia. It was decided that this committee should report to the next Congress. The members determined that it was unethical for medical practitioners to grant interviews to representatives of the lay press on medical matters in connexion with which their names were allowed to appear.

The Congress determined to recommend the several State Governments and the Government of New Zealand to base the care and treatment of the insane on the recognition of the threefold requirements of (*i.*) up-to-date mental hospitals, (*ii.*) farm and industrial colonies and (*iii.*) benevolent asylums. Congress determined that it should be brought to the notice of the proper authorities that blindness occurred among children in Queensland as a result of lead poisoning and that it was highly probable that the source of the poison was paint used on verandah railings, etc.. The last resolution passed was that in future there should be a Naval and Military Section of Congress.

The usual social functions were held. At the President's reception and ball nearly 600 guests were entertained. A garden party at Government House, a dinner given by His Excellency the Governor, Sir George R. Le Hunte, a reception by the Mayor of Adelaide and a conversazione by Sir Samuel Way, the Chancellor of the University, were among the more important entertainments. It was determined that the next meeting of Congress should be held in Melbourne, if possible in 1908, and Professor (now Sir Harry) Allen was elected President.

The Eighth Congress, Melbourne.

The Committee of the Australasian Medical Congress, in preparing for the Eighth Session, recast the Standing Orders for the purpose of facilitating the work of Congress. In the discussion on the adoption of the amended Standing Orders, Dr. Ralph Worrall endeavoured to limit the membership of the Congress to members of the British Medical Association. save in the case of Tasmania. There was opposition to this proposal, chiefly from the Melbourne members, because at that time only 400 practitioners out of 1,200 were members of the Victorian Branch of the British Medical Association. Dr. Worrall's proposal was not adopted. The Executive Committee reported that the Committee appointed to promote union among the medical organizations of Australasia had made no progress. It was stated, however, that the Medical Society of Victoria had entered into the closest possible form of union with the Victorian Branch of the British Medical Association.

In view of the relatively recent date of this Congress, it is unnecessary to refer to any but the more important events affecting the organization and continuity of the Congress. Mr. G. A. Syme was appointed Treasurer, Dr. (now Sir Henry) Maudsley was appointed General Secretary, with Dr. A. Jeffreys Wood as Acting General Secretary and Drs. L. J. Balfour, H. D. Stephens and W. B. Vance as Associate Secretaries. An important discussion took place concerning the relations of the medical profession to the public hospitals and as a result of this discussion a definite policy was laid down, to which reference is frequently made in these columns. A general discussion on syphilis was also organized and valuable information can be gleaned from the speeches.

At the final general meeting of Congress the question of the possibility of the colonization of tropical Australia by white men was introduced. The discussion which is to take place in Brisbane on this subject, is apparently the direct outcome of a resolution passed in 1908, first by the Section of Public Health and State Medicine and subsequently by Congress. Other important resolutions were carried, although it would appear that the machinery provided for rendering these resolutions more or less immediately effective was little developed. The same rotation as that adopted in the first cycle of Congresses was maintained and Congress therefore accepted the invitation from New South Wales to hold its next session in 1911 in Sydney. Dr. F. Antill Pockley was elected President.

The Sydney Congress.

The 1911 Congress, which was held at Sydney, is an interesting landmark in the gradual passage of an organization which started within the British Medical Association, emancipated itself immediately from that Association and appears to be returning to the fold in the near future.

Dr. F. Antill Pockley, as President, was associated with Dr. S. H. MacCulloch as Treasurer, Dr. A. A. Palmer as General Secretary and Dr. A. J. Brady as Associate Secretary. The General Committee, the Executive Committee and the

Reception and Entertainment Committee were very large bodies, so large that the wonder is that the work was well carried out. It is, of course, possible that these large committees exercised wisdom in leaving the greater part of the work to their excellent Secretaries. The number of Sections was increased to twelve. Only one special address was delivered before the whole Congress, namely, the Presidential Address in the Section of Medicine. The number of members enrolled was 922, including 521 from New South Wales and 208 from Victoria. Special reference is made in the report of the Executive Committee to the National Insurance Bill, which had just been introduced into the British Legislative Chambers. The Committee recommended the appointment of a standing committee to preserve the continuity of the Congress. It was felt that, should a President die during the interval between his election and the appointment of an Executive Committee, it would be necessary to start *de novo* to revive the Australasian Medical Congress. For the second time Congress had the sad duty of expressing profound regret at the death of a former President. Out of the ten past Presidents of Congress, only four are now alive.

The Standing Order in regard to the joining of Congress was modified. It was held that nobody should be accepted as a member of Congress unless he applied to the local Secretary in the State where he resided or in New Zealand.

The Committee appointed to consider the conditions of contract practice issued a valuable report. This report was adopted and at a subsequent meeting the various paragraphs were again presented for discussion and a number of resolutions passed. The policy adopted at the final meeting has found expression in the various model lodge agreements of the several Branches of the British Medical Association in Australasia. Dr. Worrall moved three resolutions dealing with hospital practice, as supplementary principles to the resolutions passed in Melbourne in 1908. An excellent discussion followed and in the end Dr. Worrall got his own way.

The Committee appointed to consider the subject of syphilis reported on the prevalence of the disease and on the measures which might be adopted to diminish its prevalence.

Among other matters dealt with by Congress was an important one raised by Dr. B. K. Newmarch, dealing with the initiation of a Naval Medical Service for the Commonwealth of Australia.

Numerous resolutions were sent from the several sections to the Congress for adoption. Included among these was a recommendation to the State Government to inquire into the number of feeble-minded children needing special education. The Congress recorded its opinion that sooner or later it would be necessary to include syphilis and gonorrhœa among the diseases notifiable by medical practitioners. A strong resolution was recorded, recommending the Federal Government to grant funds and facilities to the Australian Institute of Tropical Medicine, to enable an organized inquiry to be undertaken into the various matters likely to affect the permanent establishment of a working white race in tropical Australia. It was determined at the same time that this matter should appear as a principal subject for discussion "at the Brisbane meeting when held."

The Committee appointed to consider the question of the formation of a standing committee of Congress issued a report, setting out the proposed membership of the Committee, its duties and powers and other matters. It was proposed that a commission be formed consisting of the President, the Honorary General Secretary, the Honorary Treasurer and two members appointed by the Council of each Branch of the British Medical Association in Australia. The Commission, it was suggested, should carry out "such instructions as the Congress shall give to it, session by session." It was further suggested that this Commission should act as representative of the medical profession in connexion with matters of medico-political import. A spirited discussion took place in connexion with the fact that the proposal did not include the representation of any medical organization other than the British Medical Association. To placate the malcontents, Professor H. B. Allen suggested that the Commission should have power to co-opt other members. Dr. Worrall and others made a brave attempt to secure the reconsideration of this proposal after it had been carried. It was pointed out in very unmistakable terms that the power of co-option might be abused by the inclusion on the Commission of persons out of sympathy with the British Medical Association. The meeting eventually rescinded Professor Allen's amendment and the composition of the Commission was accepted in its original form.

An invitation was laid before Congress from the medical profession in the Dominion of New Zealand to meet in Dunedin. The invitation was cordially accepted and Dr. A. C. Purchas was appointed the President.

The Session in Auckland.

Congress met for the tenth time on February 9, 1914, at Auckland. For the first time the Commission appeared as an actual organization within the Congress. Two representatives had been appointed by each Branch of the British Medical Association in Australasia, with the exception of the Western Australian Branch. No meeting had been held, because it was impossible to obtain a quorum. Dr. Purchas, however, stated that there should be less difficulty to arrange a meeting of the Commission in Australia than in New Zealand and that he had no doubt that a quorum could be obtained if any urgent business required the attention of the Commission.

The members of the Auckland Division of the New Zealand Branch of the British Medical Association were appointed *en bloc* the Executive Committee of the Congress. Dr. B. J. Dudley was appointed General Secretary, Dr. H. C. Tewsley the Associate Secretary and N. McKay Grant the Treasurer. Dr. Grant was compelled to resign his position on account of ill-health and Dr. W. C. W. McDowell was appointed in his stead. The Executive Committee formed eleven Sections of the Congress. The number of members enrolled was 369.

It is of interest to record that Dr. J. B. MacDonald, the Chairman of the Central Council of the British Medical Association, was present at the Congress and delivered an address on national insurance. A special committee submitted a report on the methods of combating syphilis and the report was adopted. Congress dealt with the question of variola and urged the expedient of compulsory vaccination and revaccination of the whole community. Resolutions concerning the control of feeble-minded children were submitted and the Committee entrusted with this important subject was re-appointed. Contract practice, school inspection, eugenics and hospital abuses were also dealt with and some general principles were established.

At the final general meeting Dr. J. Young reported that the Council of the New Zealand Branch of the British Medical Association had resolved "that membership of future congresses be limited to members of the British Medical Association." He, therefore, presented this as a motion to the meeting. Standing Order 8 provides that motions other than those submitted on behalf of the Executive Committee can be presented if 24 hours' notice has been given. The Honourable Dr. J. B. Nash called attention to the fact that no notice of motion had been given. A very heated discussion followed, after the President had decided that the motion was in order. Dr. J. Lockhart Gibson moved as an amendment: "That all future congresses be congresses of the British Medical Association." The mover has already explained in our columns the reasons which actuated him in moving this amendment. It does not appear to have occurred to anyone at the time that the amendment was obviously invalid, since it involved an undertaking by a body which had not been consulted. There was apparently no discussion on the amendment, for, according to the record published in the *Transactions*, the closure was moved at the suggestion of the President and the amendment was carried. It is now a matter of history that the resolution remained ineffective. The question has since been freely discussed and the matter will be decided one way or another by the ballot which is to be taken in Brisbane on August 28, 1920. Steps have been taken to insure that any change in the constitution of the Congress shall be in order and effective. The Federal Committee of the British Medical Association in Australia is prepared to carry on a British Medical Association Congress, should Congress determine to wind up and to hand over its assets for this specific purpose to the Federal Committee.

It was arranged that the Eleventh Session of Congress should be held in Brisbane and that the Honourable W. F. Taylor should be President. Six months later the world was plunged into disorder. All thoughts of congresses disappeared in the one endeavour to maintain the integrity of the Empire and to gain a victory for right over might. Thus six years have passed instead of three. New problems, as well as the old ones, have presented themselves for discus-

sion at Brisbane. This, possibly the last of the Australasian Medical Congresses, will be unique in the history from the Imperial point of view, since it offers an opportunity not likely to be repeated, to those who served in the Great War to place their valuable experience at the disposal of the Empire for its future progress and its safety.

The Coming Congress.

Congress will meet in the buildings of the University of Queensland of the Central Technical College. We are indebted to the Registrar of the University of Queensland and to the Principal of the Central Technical College for the following historical summaries of the two institutions:

The University of Queensland.

History of the University.

The settlement at Moreton Bay dates from August, 1824. In 1842 the districts of Moreton Bay and the Darling Downs were thrown open to free settlement. Seventeen years later these districts and all the territory northward to Torres Strait and the Gulf of Carpentaria were separated from New South Wales and created into the Colony of Queensland, with Brisbane as its capital.

Government House was built in 1861-2, on a site adjacent to the Botanical Gardens, first planted by Allan Cunningham in 1829. In 1909, fifty years after the formation of the colony, which, in the meantime, had become the State of Queensland, the University of Queensland was founded under an Act of the legislature of Queensland. This Act established and endowed a body corporate, consisting of a Senate, a Council and graduate and undergraduate members, for the promotion of sound learning, the encouragement of original research and invention and for the provision of the means of obtaining a liberal and practical education in the several pursuits and professions of life in Queensland.

The Senate, the Governing Body, was constituted early in 1910, with the then Governor, the late Right Honourable Sir William Macgregor, G.C.M.G., M.D., as Chancellor. Faculties of Arts, Science and Engineering were established. Professors were appointed and the University was opened in March, 1911, in the former Government House.

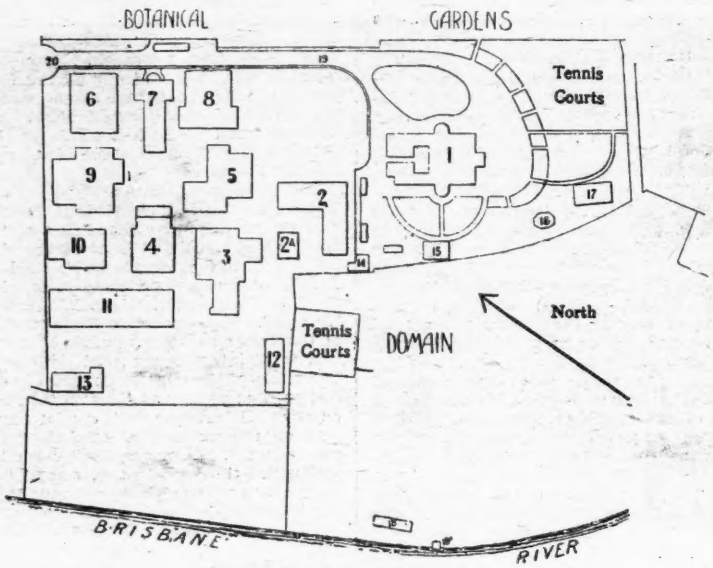
The first degrees granted to members of the University who had completed full courses in the University were conferred in 1914.

Extension.

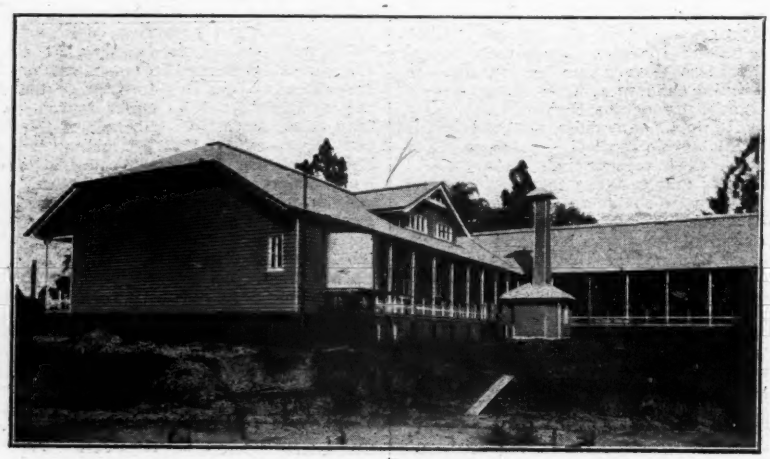
The accommodation for the University at first provided in the former Government House was inadequate.

The first extension was the erection of the chemistry laboratory.

The erection of the Central Technical College on portion of the former Government House Domain provided accommodation of a temporary nature for the Departments of Biology, Geology, Physics and Engineering. All available space is now occupied and no further increase of existing faculties or creation of new faculties is possible at the present site.



Plan of the University of Queensland.



The Chemical Building.
Rear View Before the Erection of the Walter and Eliza Hall School of Applied Chemistry.

The Main Building.

The original or main building is now occupied by the Senate, by the Registrar and by the administrative staff, the General and Arts Library and the various departments of the Faculty of Arts (Classics, Professor Michie and Mr. Castlehow; Mathematics, Professor Priestley and Mr. Priest; Philosophy, Professor Mayo and Mr. Seymour; Modern Languages, Mr. Stable, Mr. Kirwood and Mr. Schindler; History and Economics, Mr. Alcock and Mr. Melbourne).

The Senate room will be used by the Organizing Secretary of the Congress. The Registrar has lent his room to the Congress General Secretary and the members of the professorial staff have placed the Staff Common Room at the disposal of the Congress.

The Library and Reading Room will be open to members of the Congress. The Library contains about 20,000 volumes and consists of the General and Arts Library in the main building and departmental libraries attached to the scientific and engineering departments. It has been purchased out of a sum of £2,000 raised by public subscription for University equipment, £1,600 granted by the Government and a sum of about £8,200 expended out of University funds. In addition,

a large number of gifts of books have been received. The Dewey Decimal System of classification has been adopted.

The Library of the Royal Society of Queensland is accommodated in a room in the main building, which will be occupied during the Congress by the Editor of *The Medical Journal of Australia*.

The following Sections of the Congress will be housed in the main building: Ground Floor—Naval and Military Medicine and Surgery (Section X.). First Floor; Diseases of Children (Section IX.); Obstetrics and Gynæcology (Section III.); Ophthalmology (Section VI.); Otology, Rhinology and Laryngology (Section VII.).

The Chemistry Building.

The Chemistry Building is occupied by the Department of Chemistry (Professor Steele, F.R.C., Assistant Professor Denham, Mr. Bagster and Mr. Jones). It is constructed of wood, to the design of Professor Steele. It contains a lecture theatre capable of holding 120. This will be used for purposes of the Section of Public Health and State Medicine (Section V.).

The Walter and Eliza Hall School of Applied Chemistry.

Near the Chemistry Laboratory is the Walter and Eliza Hall School of Applied Chemistry, established by the Walter and Eliza Hall Trustees as a section of the Department of Chemistry, to provide for the training of men to take the place in chemistry industry that is taken in general engineering work by the graduate of an engineering school. This school was the first of its kind established in Australia. The building is of wood and, designed by Professor Steele, was built under the supervision of Mr. L. S. Bagster, Lecturer in Applied Chemistry.

The Colonial Sugar Refining Company, Limited, gave a sum of £1,000 towards the equipment of the laboratory.

The Department of Biology.

The Department of Biology is placed in temporary premises on the top floor of the Physics Building of the Technical College. The Professor of Biology, T. Harvey Johnston, M.A., D.Sc., has been granted leave of absence in order to act as Scientific Controller of the Federal prickly pear eradication work and the Department is in charge of Mr. Albert Cayzer, B.Sc.. The Section of Pathology and Bacteriology (Section IV.) will be lodged on the second floor of the Physics Building.

The Department of Physics.

The Department of Physics (Professor Parnell and Mr. Lusby) is occupied on the ground floor of the Physics Building of the Central Technical College. In it the Section of Dermatology and Radiology (Section XI.) will be placed.

The University of Queensland.
Main Building (Old Government House).

The University of Queensland.
Main Building (Old Government House).

The Department of Geology.

The Department of Geology (Professor Richards and Mr. W. H. Bryan) is at present on the first floor of the Chemistry block of the Central Technical College. It contains a large lecture theatre, which will be used by the Section of Surgery (Section II.).

The Department of Engineering.

The Department of Engineering (Professor Hawken, Dr. Boyd, Mr. Ross, Mr. Munro) is also accommodated in the Central Technical College.

The following sections will be housed in this building: Room No. 2, Neurology and Psychological Medicine (Section VIII.); Room No. 3, Medicine (Section I.); Room No. 1, Spare Lantern Room.

There is an Examination Hall in the Central Technical College, capable of seating about 350 people. This will be used for the larger meetings of the Congress.

The position of the various Sections will readily be found by the help of the plan attached.

The Central Technical College, Brisbane.

Technical College classes were inaugurated in Brisbane in the year 1881, under the auspices of the School of Arts Committee, with the Honourable J. Douglas as President and Mr. Dudley Eglington as Secretary. On March 10 of that year Mr. J. A. Clarke was appointed Instructor of Art Subjects.

In 1889 a special Technical Sub-Committee was appointed, with Mr. David R. McConnell, M.A., as Secretary. The following year premises were secured in Ann Street, opposite the School of Arts. Mr. McConnell was appointed Director

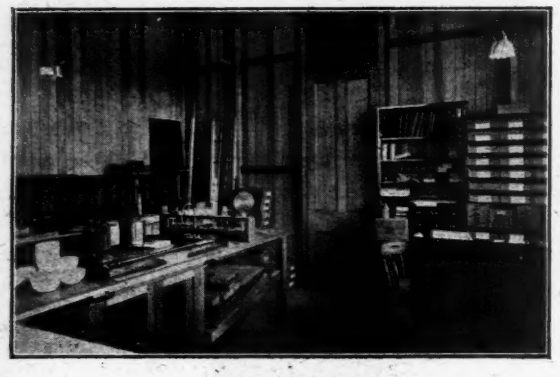
and occupied that position until the Government assumed control in 1909 and appointed Mr. Leonard Morris, B.E., Superintendent of Technical Education, and Mr. R. McLean Riddell, Deputy Superintendent and Inspector of Technical Colleges, with direct control of the Central College.

The present College buildings were commenced in 1912 and completed in December, 1914. They consist of eleven detached blocks, eight two stories and the remainder three stories in height, situated on the site of the old State Government House grounds, between Parliament House, the University, the Botanic Gardens and the Brisbane River.

The original cost of these buildings and equipment was £150,000.

In January, 1919, Mr. R. A. Wearne, B.A., was appointed Principal of the Central College and Mr. Riddell was transferred to the Department of Public Instruction and employed wholly upon administrative work in connexion with country colleges.

During the 1919 session 4,500 individual students attended the College, the class entries numbered 12,473 and the teaching and administrative staffs amounted to 200.



Chemistry Building.
Professor Steele's Room.

Chemistry Building.
Senior Laboratory.

The Central Technical College.
Main Entrance, Commercial, Administrative and Art Blocks.

Naval and Military.

The following appointments, etc., have been notified in the *Commonwealth of Australia Gazette*, No. 65, of August 5, 1920:—

Permanent Naval Forces of the Commonwealth (Sea-Going Forces).

PROMOTIONS.

To be Surgeon-Lieutenant-Commander—

Surgeon-Lieutenant (Acting Surgeon-Lieutenant-Commander) Vivian Ramsay-Smith, date of promotion, 10th April, 1920; seniority in rank, 10th April, 1920.

CONFIRMATION OF PROMOTIONS.

The provisional promotions of the following officers to the rank of Surgeon-Lieutenant-Commander are confirmed, with seniority in rank as shown:—

Leonard Darby, M.B., Ch.B., 1st April, 1916.

Alexander Scott Mackenzie, 9th December, 1918.

William James Carr, B.A., M.R.C.S., L.R.C.P., 9th December, 1918.

William Edgar Roberts, M.R.C.S., L.R.C.P., 1st January, 1919.

Australian Military Forces.

Second Military District.

Australian Army Medical Corps Reserve—

Honorary Major E. Sinclair to relinquish the temporary rank of Honorary Colonel.

Fourth Military District.

Australian Army Medical Corps Reserve—

Honorary Captain N. R. Bennett to be granted the temporary rank and pay of Major whilst employed at No. 7 Australian General Hospital, 1st July, 1920.

Honorary Captain J. C. P. Strachan to be transferred to the Reserve of Officers and to be Major, 1st July, 1920.

Honorary Captain N. B. G. Abbott to be transferred to the Australian Army Medical Corps Reserve, 6th Military District, 1st July, 1920.

Third Military District.

Reserve of Officers—

Honorary Captain J. C. P. Strachan to be transferred from the Australian Army Medical Corps Reserve, 4th Military District, and to be Major, 1st July, 1920.

Sixth Military District.

Australian Army Medical Corps—

Captain R. D. Campbell, D.S.O., to be transferred to the Reserve of Officers and to be Lieutenant-Colonel, 1st July, 1920.

Australian Army Medical Corps Reserve—

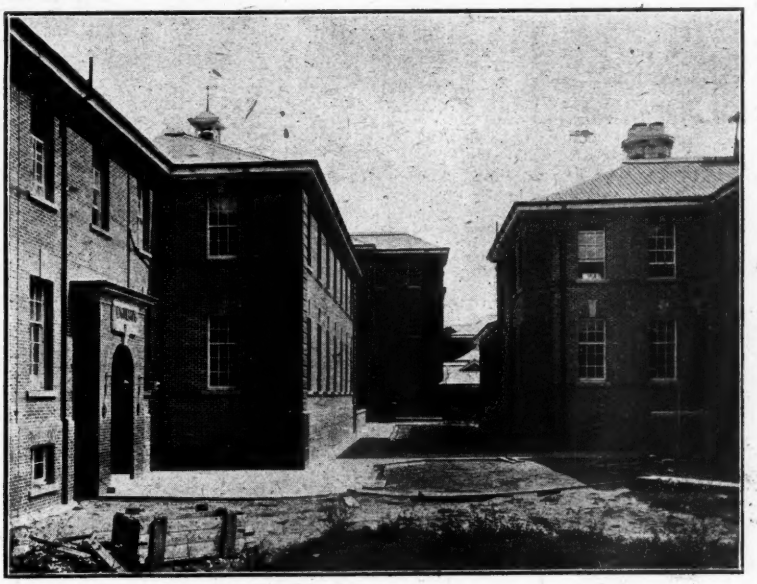
Honorary Captain J. Love to be transferred to the Reserve of Officers and to be Captain, 1st July, 1920.

Honorary Captain N. B. G. Abbott to be transferred to the Australian Army Medical Corps, 4th Military District, 1st July, 1920.

AWARD OF THE COLONIAL AUXILIARY FORCES OFFICERS' DECORATION.

Unattached List—

Major (Honorary Colonel) H. A. Powell, C. M. G..



The Central Technical College.
Engineering, Chemistry and Physics Blocks.

Obituary.

CHARLES AYRES.

It is with great regret that we have to record the death of Dr. Charles Ayres, which took place in Sydney on July 29, 1920.

Charles Ayres was born in Sydney in 1861. He was educated at the Christ Church School and at the age of 14 entered the Sydney Grammar School, where he completed his school education. In 1879 he entered the University of Sydney and three years later he took his degree in Arts with honours in classics. In the same year he went to London, where he stayed for about a year. Later he entered the Medical School at the Edinburgh University and in 1894 he graduated as M.B., M.S.. We learn that his work during the educational period was of a high order and gave promise of a distinguished career. After graduation he returned to Australia and registered in the State of New South Wales in October, 1894. He took a position as Assistant to the late V. E. Ludlow. After the termination of the period of his assistantship he entered practice in partnership with Dr. N. J. Dunlop. He was very successful in his practice and was highly popular among his patients. About the year 1903 he married. Three or four years later he visited the skin clinics of England, France and Germany and studied under the leading dermatologists of the day in Europe. He returned to New South Wales in 1908 and settled in Sydney, where he devoted himself almost entirely to X-ray work. At that time Dr. Herschel Harris was the only radiological specialist in Sydney. He was appointed Honorary Medical Officer to the X-ray Department at St. Vincent's Hospital, Darlinghurst, and Honorary Dermatologist to the Rookwood State Hospital. Since 1914 he held the position of Honorary Radiographer at the Sydney Hospital. The death of his wife after a prolonged and painful illness about five years ago produced a profound change in him. He had always been reserved and had always taken a serious view of life. During the past few years his reserve and his serious demeanour became accentuated. From time to time Charles Ayres took part in the discussions at the meetings of the New South Wales Branch of the British Medical Association. Soon after its introduction the Coolidge tube found a warm advocate in Charles Ayres and he endeavoured to fire others with the same enthusiasm for modern radiological work as influenced his own practice. He was always ready to adopt new ideas and to use new apparatus when he was convinced of the accuracy of the one and the advantages of the other. As a practitioner he was skilled, gentle, kind and diplomatic. As a friend he was staunch.

It is with regret that we have to announce the death of Dr. Ivan Edwin Ashby, which took place on August 2, 1920, at Blackwood, South Australia.

POST-GRADUATE COURSE IN MELBOURNE.

We have been informed that the Introductory Address to the Post-Graduate Course, which has been organized to begin on November 8, 1920, in Melbourne, will be delivered by Professor W. A. Osborne. Special pathological demonstrations will be held by Professor Sir Harry Allen and Dr. S. W. Patterson, the Director of the Walter and Eliza Hall Institute for Research in Medicine. The full syllabus will be issued early in September. The fee for the full course will be £3 3s.

AN AMERICAN VIEW OF MEDICAL JOURNALISM.

A little over a year ago the following note was published in *The Journal of the American Medical Association*:

Why Editors Die Young.

Carbon copies.
Single spacing.
Calling the patient a case.
Unnumbered pages.
Carbon copies.
No sub-headings.
No summary.
Tightly rolled manuscript.
Carbon copies.
Pictures without legends.
Carbon copies. Carbon copies. Carbon copies.
Carbon copies and finally
Single spacing.

Our American contemporary apparently refuses manuscript, good, bad or indifferent, unless the tightly rolled manuscript is to be taken literally.

It has been reported that the Health Commission of Victoria proposes to carry out a series of experiments in a small township, with a view to the elimination of diphtheria. It is stated that a special medical officer, an assistant and a nurse will be engaged and that the local practitioners will be asked to collaborate in the movement.

On July 30, 1920, a steamer, *Roberto Figueras*, was ordered into Quarantine at Townsville, on account of illness which had broken out among the coolies. Six deaths had occurred and several other coolies were ill. It was thought at first that the disease was typhus fever. Every precaution was taken to limit the spread of the attack. It appeared, however, that the illness was cerebro-spinal meningitis.

Books Received.

SELECTED LECTURES AND ESSAYS, INCLUDING LIGAMENTS: THEIR NATURE AND MORPHOLOGY, by Sir John Bland Sutton, F.R.C.S., LL.D.; 1920. London: William Heinemann (Medical Books), Ltd.; Fourth Edition; Demy 8vo., pp. 317, with 111 illustrations. Price, 15s. net.

MISSHAPEN NOSES AND THEIR SURGICAL CORRECTION WITHOUT CICATRIX, by Julien Bourguet, M.D. (Paris); 1920. London: Baillière, Tindall & Cox; Sydney: Angus & Robertson, Ltd.; Royal 8vo., pp. 34, with 34 illustrations. Price, 4s. 6d. net.

Medical Appointments.

For the purposes of the *Navigation Act, 1912-1919*, Dr. Frederick Tooth (B.M.A.) has been appointed Commonwealth Medical Inspector of Shipping for the Port of Melbourne, Dr. R. L. Park (B.M.A.) having resigned.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxv.

University of Sydney: Chair of Surgery.
University of Sydney: Chair of Physiology.
Hospital for Sick Children, Brisbane: Two Resident Medical Officers.
Hamilton Hospital and Benevolent Asylum, Victoria: Medical Officer.

Medical Appointments.

IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA. (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges (other than the Grand United Order of Oddfellows and the Melbourne Tramways Mutual Benefit Society), Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND. (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital. Stannary Hills Hospital.
SOUTH AUSTRALIA. (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA. (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES. (Hon. Sec., 30.-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
NEW ZEALAND: WELLINGTON DIVISION. (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

Aug. 17.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
Aug. 17.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
Aug. 17.—Illawarra Suburbs Med. Assoc. (N.S.W.).
Aug. 18.—W. Aust. Branch, B.M.A..
Aug. 18.—North-Eastern Med. Assoc. (N.S.W.).
Aug. 19.—Western Suburbs Med. Assoc. (N.S.W.).
Aug 25.—Vic. Branch, B.M.A., Council.
Aug. 26.—S. Aust., B.M.A..
Sept. 1.—Vic. Branch, B.M.A..
Sept. 9.—Last day for nomination of two Candidates for election to Federal Committee.
Sept. 10.—N.S.W. Branch, B.M.A., Clinical.
Sept. 10.—S. Aust. Branch, Council.
Sept. 13.—Tas. Branch, B.M.A..

EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: City 2645.)

We are seeking copies of our issues of February 14 and 28, 1920. There has been an unusual demand on our stock, which is now depleted. Members who do not keep *The Medical Journal of Australia* for binding, are requested to send us their copies, on receipt of which the usual payment of the face value will be made.